The 2001 Fishwheel Project on the Nass River, BC

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THE 2001 FISHWHEEL PROJECT ON THE NASS RIVER, BC

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ABSTRACT

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Up to six fishwheels were operated on the lower Nass River from 7 June to 14 September 2001. The fishwheels operated for a total of 10,783 h and captured 124,961 salmon. Catches of adult salmon included 32,821 sockeye, 42,508 pink, 22,705 coho, 12,106 chinook, 1,435 steelhead, and 162 chum. Of these, 6,841 sockeye, 3,317 coho, 3,600 chinook salmon, and 1,346 steelhead were tagged. Totals of 586 chinook, 1,501 sockeye and 753 coho salmon from the catch were successfully aged using scales. A total of 9,192 tagged fish were later recovered (or observed) at the Meziadin fishway, in in-river fisheries and on tributaries of the Nass River. From 27 June to 23 August, a total of 1,901 chinook, 12,267 sockeye and 5,745 coho were selectively harvested from the fishwheels as part of the entitlement and harvest agreements of the Nisga'a Treaty (NFA 2000). Counts of marked and unmarked fish from the Meziadin fishway and in-river harvests were used to compute net escapement estimates for sockeye (167,250) and coho salmon (79,787). The coho estimate represented only a portion of the total coho escapement because the fishwheels did not operate through the entire coho run and recovery efforts were confined to an early run stock (Meziadin River). The net chinook escapement (28,329) was derived by a mark-recapture estimate (spawning ground surveys) minus estimated in-river harvests above Grease Harbour tagging sites. The six fishwheels combined caught an estimated 33.6% of the chinook run, 16.0% of the sockeye run, and 25.4% of the coho run. Including subsequent in-river harvests, an estimated 41,059 chinook and 233,046 sockeye salmon entered the Nass River in 2001. Daily tag release (at the fishwheels) and recovery data (at the Meziadin fishway) were used to reconstruct the sockeye abundance in the lower river and assess the within-season variation in the portion of the sockeye run caught by the fishwheels.

RÉSUMÉ

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Jusqu'à six filets rotatifs furent en opération sur la section inférieure de la rivière Nass pour un total de 10,783 heures et ont capturé 124,961 saumon entre le 7 juin et le 14 septembre, 2001. Des saumon adultes capturés nous comptons 32,821 saumon rouge, 42,508 saumon rose, 22,705 saumon coho, 12,106 saumon quinnat, 1,435 truites arc-en-ciel anadrome et 162 saumon kéta. De ceux-ci, 6,841 saumon rouge, 3,317 saumon coho, 3,600 saumon quinnat, et 1,346 truites arc-en-ciel anadrome furent marqués. Nous avons réussi à déterminer l'âge de 586 saumon quinnat, 1,501 saumon rouge et 753 saumon coho en nous servant des écailles. Nous avons récupéré (ou observé) un total de 9,192 poissons marqués à la passe migratoire Meziadin, dans les pêches en rivière et dans les affluents de la rivière Nass. Entre le 27 juin et le 23 août, pour satisfaire une partie des droits et des accords de récolte du traité Nisga'a (NFA 2000), un total de 1,901 saumon quinnat, 12,267 saumon rouge, et 5,745 saumon coho furent capturés dans les filets rotatifs en se servant de la technique de pêche sélective. Nous nous sommes basés sur le compte de poissons marqués et non marqués de la passe migratoire Meziadin et de poissons capturés dans la rivière pour calculer l'estimation de l'échappée nette pour le saumon rouge (167,250) et le saumon coho (79,787) L'estimation du saumon coho ne représentait qu'une portion de l'échappée totale car les filets rotatifs n'étaient pas en opération durant toute la remontée du saumon coho et les efforts de récupération ont été limités au stock de la montée hâtive (rivière Meziadin). L'échappée nette du saumon quinnat (28,329) fut dérivée de l'estimation de la récupération marquée (recherches de la frayère) moins l'estimation de la récolte dans la rivière en amont des sites de marquage de Grease Harbour. Les six filets rotatifs ont capturé approximativement 33.6% de la remontée du saumon quinnat, 16.0% de la remontée du saumon rouge, et 25.4% de la remontée du saumon coho. Y compris les récoltes subséquentes dans la rivière, une estimation de 41,059 saumon quinnat et 233,046 saumon rouge sont entrés dans la rivière Nass en 2001. Nous nous sommes servis de la remise à l'eau journalière des poissons étiquetés (aux filets rotatifs) et des données de récupération (à la passe migratoire Meziadin) pour reconstruire l'abondance du saumon rouge dans la section inférieure de la rivière afin de déterminer les variations qui prennent place durant la saison dans la portion de la remontée du saumon rouge capturé par les filets rotatifs.

INTRODUCTION

This report documents the results of the tenth consecutive year of a fishwheel project on the Nass River (Link et al. 1996; Link and English 1996, 1997; Link and Gurak 1997, Link 1999; Link et al. 2001; Alexander and Link 2001; Alexander 2001; Alexander et al. 2002; hereafter referred to as "Annual Reports"). This report documents methods, fishwheel catches and effort, tagging and mark-recapture data, population estimates, and biological and age information obtained from the 2001 season.

The objectives of the 2001 Nass River fishwheel project were to:

1. Use the fishwheels to capture, tag, and recapture sockeye (*Oncorhynchus nerka)*, chinook (*O. tshawytscha*) and coho (*O. kisutch*) for use in estimating in-season escapements above Gitwinksihlkw on the Nass River;

2. Use the fishwheels to conduct a selective harvest of sockeye (and other species if permitted) as part of the entitlement and harvest agreements of the Nisga'a Treaty and if an escapement surplus to spawning requirements (ESSR) fishery is approved by Fisheries and Oceans Canada (no ESSR fishery was approved in 2001);

3. Generate post-season estimates of the escapement of chinook, sockeye, coho, pink (*O. gorbuscha)*, chum (*O. keta)* and steelhead (*O. mykiss*) returning to the Nass River and document the migration timing of each species; and

4. Collect and summarize biological information from fish captured in the fishwheels.

The steelhead escapement estimates for 2001 have been summarized in Alexander (2002).

Study Area

The Nass River drains 20,500 km^2, has an average annual discharge of 813 m^{3}s^{-1} and ranges from 24 m^{3}s^{-1} to 5437 m^{3}s^{-1} within years (Holland 1976). The river originates in the Skeena Mountains and flows south and southwest for approximately 400 km, entering the Pacific Ocean at Portland Inlet on the north coast of British Columbia (Figure 1).

METHODS

Fishwheel Operation

Up to six fishwheels (Meehan 1961; Donaldson and Cramer 1971) similar to those described by Link and English (1996) have been operated on the Nass River since 1992; two from 1992 to 1993, three in 1994, four from 1995 to 1999, and six fishwheels since 2000. In 2001, two fishwheels were operated near the village of Gitwinksihlkw (approximately 46 river km from sea) and four fishwheels were operated 17-20 km upstream of Gitwinksihlkw near Grease Harbour (Figure 1 and Appendix A). The design of the fishwheel used on the Nass has changed significantly since 1992. Link and English (1996) document the shift in 1993 from a "Taku River" two-basket wooden fishwheel design to a three-basket design that was largely based on photographs of fishwheels used on the Columbia River about 100 years ago (Donaldson and Cramer 1971). After 1993, there was a gradual transition from wood to aluminium as the building material for the fishwheels (documented in the Annual Reports). Virtually all of the fishwheel components were made of aluminium by 1997.

The nylon netting which lines the fishwheel basket has varied across the years. From 1992 until 1995, all fishwheels were fitted with 9.8 cm or $3^{7}/_{8}$" *13x16* knotted salmon seine net. In 1996, fishwheels 2 and 4 were fitted with a smaller 3.8 cm mesh (1½" stretched, knotless nylon mesh, BL 210-60). Since 1997, all four of the Nass River fishwheels were fitted with the smaller 3.8 cm mesh.

Daily maximum and minimum water levels (m) at Gitwinksihlkw were recorded from a wooden staff gauge secured on the canyon wall just below fishwheel 2. Water temperature (^{o}C) was also recorded daily at fishwheel 2 using a thermometer.

In this report, any reference to the Gitwinksihlkw fishwheels refers to fishwheel 1 and fishwheel 2 and any reference to the Grease Harbour fishwheels refers to fishwheels 3, 4, 5 and 6 (Figure 1).

Fishwheel Effort and Catch

Daily fishing effort of the fishwheels was measured in two ways. First, total effort was measured as the total time each fishwheel was fishing from midnight to midnight each day. This effort value gave an indication of the amount of down time (non-operational time) associated with each date. Second, the effort used to calculate catch per unit effort (CPE, fish per hour) was measured as the number of hours fishing that went into obtaining each day's catch. These two effort values were different on most days because the time of the last sampling session on each day varied; this affected how much effort went into a given day's catch. For example, if the last sampling session on day t finished at 2200 h, and on day $t+1$ the last sampling session ended at 2000 h (all fish were removed after each session and the fishwheel fished continuously through day t and $t+1$), only 22 h of fishing effort went into obtaining the catch on day $t+1$, whereas the total effort for day $t+1$ would be 24 hours as there was no "down time". The fishing effort on day $t+1$ could also exceed 24 h if the last sampling session on day t was earlier than the last sampling session on day $t+1$.

The speed of each fishwheel was determined each day by measuring the time required for the fishwheel to complete three revolutions. This value was converted to revolutions per minute (RPM). The arithmetic mean of the measurements was used when the fishwheel speed was measured more than once in a day.

Tagging

As in previous years, spaghetti tags and operculum tags were used for marking fish from the fishwheels and for generating mark-recapture population estimates. Numbered, coloured spaghetti tags (Floy Model FT-4)[3] were applied to sockeye (yellow [July to September], blue [June], grey [1-7 August only]) and coho (red); numbered operculum tags (Ketchum kurl-lock tag, No. 3)[4] to chinook; and numbered anchor "T-bar" tags (Floy FD-68B; yellow [fishwheels 1 and 2] and green [fishwheels 3 to 6]) were applied to steelhead. Sockeye and coho were only tagged at the Gitwinksihlkw fishwheels; chinook and steelhead were tagged at all fishwheels at Gitwinksihlkw and Grease Harbour. The spaghetti and anchor tags were applied through the dorsal musculature near the posterior end of the dorsal fin with a stainless steel needle (Floy FT-4 applicator) and a tagging gun (Dennison Mark II Regular Scissor Grip), respectively. The operculum tags were attached to the left opercle plate of chinook salmon using a Ketchum operculum plier. Pacific lamprey were marked with a single-hole paper punch by placing a 6 mm diameter hole in the dorsal area of the caudal fin (fish caught in fishwheels 1 and 2) and through the dorsal fin (fish caught in fishwheels 3, 4, 5 and 6). The handling and tagging procedures used for salmon caught in the fishwheels in 2001 were the same as those used in previous years (see Annual Reports).

Genetic Stock Identification

Genetic sampling of chinook, sockeye and coho was conducted at the Gitwinksihlkw fishwheels in 2001. Approximately 30% (every third fish), 20% (every fifth fish), and 5% (every second fish from age and length samples) of the chinook, coho and sockeye caught at the Gitwinksihlkw fishwheels were sampled for genetic (DNA) analyses, respectively. Genetic sampling was also conducted for most of the steelhead captured in the six fishwheels. In addition to sampling at the fishwheels, genetic samples from sockeye, coho and steelhead were collected at the Meziadin fishway in 2001. A small piece of adipose tissue was hole-punched from fish that were sampled at the fishwheels or fishway and preserved in 95% ethanol (within small vials). The purpose of the sampling was to determine if DNA characteristics can successfully discriminate individual stocks in mixed stock samples and whether the genetic information could help define population structure and within-species diversity (i.e., conservation concerns). Samples collected at the fishwheels were to be used to estimate the stock composition of the fishwheel catch. Genetic samples were shipped to the Department of Fisheries Oceans (DFO), Prince Rupert (chinook, sockeye, and coho), and Ministry of Water, Land and Air Protection (MWLAP), Smithers (steelhead), for analysis. Results from the analyses are not presented in this report.

Harvesting

Portions of the chinook, sockeye and coho catch in the fishwheels were harvested as part of the entitlement and harvest agreements of the Nisga'a Treaty (NFA 2000). Fish that were harvested were dipnetted from the holding pens in the fishwheel pontoons, bled by breaking the base of the gill arch and placed in totes of flaked ice. Harvested sockeye and coho were transported in totes to a processing plant in New Aiyansh for heading and gutting, and then were shipped to Prince Rupert for secondary processing.

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[3] Floy Tag and Manufacturing Co. Inc., 4616 Union Place N.E., Seattle, WA 98105 USA

[4] Ketchum Manufacturing Sales Ltd., 396 Berkley Ave., Ottawa, Ont., K2A 2G6, Canada

Tag Recovery

Fish tagged at the fishwheels were recovered throughout the Nass River watershed using a variety of techniques. The majority of tagged sockeye and coho salmon were counted and/or recovered at the Meziadin fishway (150 river km upstream of the fishwheels; Haugan et al. 1989; Figure 1). Tagged chinook salmon were recovered primarily during the spawning grounds surveys. Recoveries of tagged salmon were also obtained from the fishwheels (many released back to the river live), in-river net and sport fisheries.

Since 1998, a reward program has been implemented to encourage fishers to return any fishwheel tags (chinook, sockeye, coho and steelhead) from fish that were captured during in-river fisheries. Each returned tag gave the returnee one chance in each of three separate draws of $250. The draws take place in January, several months after the fishery, and a public announcement of the winners is made to all the Nisga'a communities. Posters were distributed around the Nass Valley describing the reward program and catch-monitoring interviewers encouraged fishers to return any tags that were captured during fishing activities. The information obtained from the tag recovery program was used to assess the relative participation rate of fishers returning tags from in-river fisheries and estimate tag removals.

The field crew working at the Meziadin fishway counted every tagged fish that passed through the fishway, and captured and recorded numbers from as many tagged fish as possible, without excessively delaying the migration of fish. Diverting tagged fish into a pen adjacent to the counting chute captured a portion of each day's tagged fish. The fish were then dipnetted out of the holding pen, the portion of the tag containing the tag number was cut off with scissors and the fish was released upstream of the fishway. With their tags clipped, the crew would know if a tagged fish had dropped back below the falls and re-ascended the fishway. The clipped tag was immediately obvious in the counting chute and a complete count of tagged fish using the fishway more than once could be obtained.

Upper Nass Escapement Estimates

In-season Escapement Estimates

In-season population estimates for sockeye salmon were derived using two methods. The first method provided escapement estimates using pre-season estimates of the combined catchability coefficient for the Gitwinksihlkw fishwheels 1 and 2. Since 1997, period-specific catchability estimates have been used early in the season (June). Period-specific catchability estimates account for within season changes in catch rates of the fishwheels. These factor-based escapement estimates were used in June and were based on estimated catch rates of the Gitwinksihlkw fishwheels from 1994 to 2000. We excluded catch rates from 1998 given the unusually low water levels and catch rates experienced in that year (Alexander and Link 2001). The second method used tag recovery data from the Grease Harbour fishwheels and the Nisga'a in-river fishery between Gitwinksihlkw and Grease Harbour, once sufficient numbers of tagged and untagged sockeye were recovered to derive a reliable mark-recapture estimate (Link and English 1996). In 2001, the mark-recapture estimate was considered the better of the two estimates by 28 June.

In-season population estimates for chinook and coho were estimated using two methods, the period-specific catchability estimate (1997 to 2000, excluding 1998) and the tag recovery data from the Grease Harbour fishwheels. Both of these methods were calculated as for sockeye, but using catch and tag recovery data for either chinook or coho.

Post-season Escapement Estimates

Post-season population estimates were calculated for sockeye, coho and chinook salmon using the tag recovery information from the Meziadin fishway and spawning ground surveys. These data were pooled to include fish tagged and examined over the entire run. The post-season escapement estimates were made using the adjusted Petersen formula (Ricker 1975). For the sockeye and coho estimates, the fish examined at the Meziadin fishway were used as the recapture sample (C in the Petersen formula; Ricker 1975). For chinook salmon, live counts (Meziadin fishway) and dead fish from the spawning ground surveys were pooled and used as the recapture sample to generate a population estimate above Grease Harbour. Confidence limits for the mark-recapture estimates were determined using Pearson's formulae (Appendix II of Ricker 1975).

For the sockeye estimate, the number of tags applied at the Gitwinksihlkw fishwheels was adjusted to account for tag losses associated with tagging-related mortality, loss of the primary mark and selective removal of tags by the Nisga'a domestic, individual-sale and communal fisheries. Tagging-related mortality and loss of marks for tagged sockeye was assumed to be 10% based on Link and Gurak (1997) radio-telemetry results of Nass sockeye in 1995. The number of tags removed in Nisga'a fisheries was estimated by multiplying the total catch of sockeye caught in the domestic and individual-sale fisheries by the "observed" tag rate (observed tags returned to observed catch) found in the individual-sale fishery in each strata. It is reasonable to assume a 100% tag return compliance in the sale fishery as all fish landed were individually inspected by a landing-site monitor. The individual-sale fishery for sockeye occurred between 21 June and 19 July (Baxter et al. 2002).

For the coho estimate, the number of tags applied at the Gitwinksihlkw fishwheels was also adjusted to account for tag losses associated with tagging-related mortality, loss of the primary mark and an estimated selective removal of tags within the Nisga'a in-river fisheries. Tagging-related mortality and tag loss for tagged coho was assumed the same as tagged sockeye (10%). Tags removed in the Nisga'a fisheries was estimated by multiplying the total catch of coho caught in the domestic and individual-sale fisheries by the "observed" tag rate (observed tags returned to observed catch) found in the individual-sale fishery in each strata. The individual-sale fishery for coho occurred on 16 August and 18 August (Baxter et al. 2002).

For the chinook estimate, the number of tags applied at the fishwheels was also adjusted to account for tag losses associated with tagging-related mortality, loss of the primary mark and selective removal of tags in the Nisga'a in-river fisheries. Tagging-related mortality and tag loss for tagged chinook was assumed to be 5% based on Koski et al. (1996a,b) radio-telemetry results of Nass chinook in 1992 and 1993. Tags removed in the Nisga'a fisheries were calculated by the same method that was used for sockeye and coho with the exception that we assumed only a 90% tag return rate during the individual sale fishery as not all chinook that were landed were observed by the landing-site monitor. No directed (individual-sale) fisheries for chinook were conducted in 2001.

A post-season index of escapement for pink and chum salmon to the upper Nass (above Gitwinksihlkw) was estimated in 2001 to aid in post-season accounting of the allocation of each species as part of the Nisga'a Final Agreement (NFA, 2000). An index of escapement was calculated for both fishwheels 1 and 2 by dividing the catch of each species by an assumed catch rate at each of the fishwheels. Catch rates at the Gitwinksihlkw fishwheels were assumed to be double and the same as sockeye for pink and chum, respectively; based on our knowledge of capture vulnerability at the fishwheels, migration behaviour differences and preliminary results from the Taku River fishwheel program (M. Link, LGL – Sidney, pers. comm.). An overall index of escapement was calculated by averaging the estimates from fishwheels 1 and 2 for each species.

Run Reconstruction

Daily sockeye salmon abundance at the Gitwinksihlkw fishwheels was reconstructed using tag recovery data from the fishway and each day's abundance was compared to fishwheel catches to examine the variation in the estimated portion of the run the fishwheels caught through time (Link and English 1996). We used a computer program (Stratified Population Analysis System [SPAS]; Arnason et al.1996) to assist in the run reconstruction analyses that generated Schaefer and Petersen estimates. The run reconstruction data set allows us to assess the suitability of the fishwheels as an in-season index of the sockeye salmon escapement to Gitwinksihlkw, and represented the eighth year of baseline data as an in-season index. The run reconstruction was possible because daily catch and tag totals from the fishwheels and the Meziadin fishway were known, as were the travel times for tagged fish recovered at the fishway.

Age and Length Sampling

A portion of each day's catch in the Gitwinksihlkw fishwheels was sampled for scales, length and sex determination. Both fixed-size sampling and proportional sampling was done in 2001. Up to 20 chinook per day were sampled for scales and nearly all tagged chinook were measured; for sockeye, approximately 10% of the catch was sampled (scales and length). Up to 20 coho salmon per day were sampled for scales and nearly all tagged coho were measured. The majority of the steelhead captured in the six fishwheels were sampled for scales, length and sex. The nose-fork length was measured (to the nearest cm) using a fabric measuring tape affixed to the inside of the tagging tray. Jacks were defined as chinook salmon less than 50 cm, sockeye salmon less than 45 cm and coho salmon less than 40 cm and were not tagged. Two scales were taken from the preferred area for sockeye and coho, and five scales were collected from chinook and steelhead. Scales were mounted on numbered, gummed scale cards. Excluding the steelhead samples, scale samples were sent to DFO's scale lab in Nanaimo, BC. The steelhead samples were sent to MWLAP in Smithers, BC.

Fish ages are presented using Gilbert-Rich notation where the first digit represents total age and the second digit denotes the number of winters the fish resided in fresh water since egg deposition. The daily catch of adult fish of each species at Gitwinksihlkw was used to derive species-specific daily CPE and these were used to weight the age composition data for chinook and coho. The age data for sockeye salmon were weighted with the reconstructed abundance obtained from tag recovery data. Sex was determined from visual inspection of the fish. However, because many of the fish were ocean-bright, it was difficult to differentiate between males and females. Therefore, the sex data are not considered reliable and are not summarized here.

RESULTS

Fishwheel Operation

The level of the Nass River at Gitwinksihlkw ranged from a minimum of 0.5 m in mid-September to a maximum of 4.6 m in the third week of June 2001 (Table A - 1). During the period of operating the fishwheels, 7 June to 14 September, the average water level at Gitwinksihlkw was 2.6 m (± 0.9 S.D.). The water level showed considerable day-to-day variability throughout the season with two high water periods, occurring in the third weeks of June and July, and two low periods occurring in the third week of August and mid-September (Figure A - 1). Water levels were above and below the average levels observed between 1992 and 2000 during the high water periods and during August, respectively (Figure A - 1). Water temperature ranged from 2.0 °C to 9.0 °C (the average was 5.8 °C) over the same period (Table A - 1; Figure A - 1).

Fishwheels 1 and 2 were operated from 7 June to 14 September in the same locations since 1992. Fishwheel 3 was operated from 9 June to 14 September in the same location since 1994. Fishwheel 4 operated from 27 June to 6 September in the same location since 1994. Fishwheel 5 was operated 300 m downstream of fishwheel 4 from 27 June to 11 September. Fishwheel 6 was operated in the same location as 2000 from 12 June to 14 September (Figure 1). Small changes (<100 m) in the position of each fishwheel relative to the bank were common in 2001.

Fishwheel Effort

The Gitwinksihlkw and Grease Harbour fishwheels were operated from early June to mid-September for a combined total fishing time of 10,783 h (Table A - 2). Combined, the six fishwheels fished 93.2% of the time that they were in operation (Figure 2). Periods of non-operation were primarily caused by high water events in the third weeks of June and July. Other non-operational periods were due to mechanical failure and low water levels in late August. Fishwheels 3, 4 and 5 were fished less than other fishwheels (67-79 d vs. 84-94 d). Fishwheels 1 and 2 fished generally at slower speeds (1-3 RPM) than fishwheels 3 to 6 (2-4 RPM).

Catches and Catch Per Unit Effort

A total of 124,961 salmon (111,737 adults, 13,224 jacks) were captured in the fishwheels in 2001, excluding recaptures of tagged fish (Table 1). The sockeye salmon catch was the largest (44,354), followed by pink (42,508), coho (23,564), chinook (12,938), steelhead (1,435), and chum (162). Fishwheel 2 captured the most salmon (28,871), followed by fishwheel 1 (26,214), fishwheel 6 (22,405), fishwheel 5 (21,629), fishwheel 3 (14,138), and fishwheel 4 (11,704). Catches of adult salmon at the Gitwinksihlkw fishwheels were well above their 1994 to 2000 averages for chinook (4531 vs. 1599), coho (5522 vs. 2551), pink (26,676 vs. 10,236) and steelhead (415 vs. 232); and below average for sockeye (13,935 vs. 14,903) and chum (115 vs. 167; Table 1). Catches of jacks at the Gitwinksihlkw fishwheels were well above their 1994 to 2000 averages for chinook (323 vs. 149) and sockeye (3445 vs. 784), and below average for coho (123 vs. 201; Table 1).

The CPE for chinook salmon in fishwheels 1 and 2 showed two peaks in abundance, a smaller peak (10 fish per hour) after the high water period in late June and a larger peak (21 fish per hr) in early July when the run passed Gitwinksihlkw (Figure 3 and Figure A - 1). Catches at Gitwinksihlkw peaked on 2 July with the highest daily catch experienced at the fishwheels since the start of the program in 1992 (789 adults were caught, 535 in fishwheel 1 and 254 in fishwheel 2; Table B - 1). The 50% point of the cumulative CPE for fishwheels 1 and 2 occurred on 2 July and 1 July, respectively. The total catches of the four Grease Harbour fishwheels were 1.7 times higher than the total catches in fishwheels 1 and 2 (Figure 3; Table B - 1). The CPE for chinook salmon in the Grease Harbour fishwheels also showed two peaks in abundance on 3 July (16 fish per hour) and 12 July (19 fish per hr) respectively (Figure 3). The peak catch (1177) of adult chinook on 3 July was primarily from high catches in fishwheels 3 (249) and 5 (172) whereas the peak catch on 12 July (1168) was primarily from high catches in fishwheels 4 (433) and 6 (407). The 50% point of cumulative CPE for the Grease Harbour fishwheels occurred between 8 July (fishwheel 3) and 10 July (fishwheels 4 and 5), suggesting that chinook passage thourough the canyon was not greatly delayed by water levels (Figure 3 and Figure A - 1). Table B - 2 shows the number of chinook that were harvested from each of the fishwheels as part of the Nisga'a Treaty domestic entitlements, 2 July to 14 July.

The sockeye run first passed the Gitwinksihlkw fishwheels in early June but was interrupted by high water in the third week of June (Figure 4). Once the water level receded, the run continued to pass Gitwinksihlkw until the third week of July when another high water event occurred delaying the migration of the run (Figure A - 1). After the high water event in July, the sockeye run peaked in abundance (25 fish per hour) with 1078 sockeye caught in fishwheels 1 (479) and 2 (599) on 25 July (Table B - 3). The 50% point of cumulative CPE for sockeye caught in the Gitwinksihlkw fishwheels occurred on 18 July. At the Grease Harbour fishwheels, peak abundance occurred on 27 July (16 fish per hour) when 1338 sockeye were caught in fishwheels 3 (343), 4 (321), 5 (299) and 6 (375; Figure 4). The 50% point of cumulative CPE for sockeye caught in the Grease Harbour fishwheels occurred between 26 July (fishwheel 5) and 29 July (fishwheels 3 and 4; Table B - 3). Table B - 4 shows the number of sockeye that were harvested from each of the fishwheels as part of the Nisga'a Treaty, 27 June to 28 July.

The first adult coho salmon was captured on 25 July at Gitwinksihlkw (fishwheel 1; Table B - 5). The CPE for coho salmon showed two distinctive peaks in abundance at Gitwinksihlkw, on 13 August (10 fish per hour) and 29 August (10 fish per hour; Figure 5). The peak in catch for fishwheels 1 and 2 occurred on 13 August (244) and 29 August (111), respectively. At Grease Harbour, peak abundance of coho occurred in early September (26 fish per hour) with a peak catch of 1487 coho on 1 September; 167 in fishwheel 3, 210 in fishwheel 4, 667 in fishwheel 5 and 443 in fishwheel 6 (Table B - 5; Figure 5). The 50% point of cumulative CPE for coho caught in fishwheels 1, 2, 3, 4, 5 and 6 occurred on 15 August, 20 August, 26 August, 20 August, 29 August, and 24 August, respectively. We assumed that the fishwheels did not operate through the entire coho run and the fishwheel catches represented early-to-mid-run stocks, presumably coho stocks destined above the Cranberry River. Table B - 6 shows the number of coho that were harvested from each of the fishwheels as part of the Nisga'a Treaty, 10 August to 23 August.

The CPE for steelhead caught in fishwheels 1 and 2 ranged between 0.1 and 0.7 fish per hour with most of the run passing in late August and early September (Figure 6). Steelhead caught in June were classified as kelts (spawned out fish from the 2000 return year). The 50% point of the cumulative CPE for fishwheels 1 and 2 occurred on 20 August and 23 August, respectively, with fishwheel 2 catching more fish (297 vs. 118; Table B - 7). However, very low water levels in late August and late September contributed to poor catch efficiencies at the Gitwinksihlkw fishwheels during these periods (Figure A - 1). The CPE for steelhead caught in the Grease Harbour fishwheels ranged between 0.2 and 2.7 fish per hour with peak abundance in early and late September, peak catch (145) occurred on 1 September (Figure 6). The 50% point of cumulative CPE for fishwheels 3, 4, 5 and 6 occurred on 31 August, 22 August, 30 August, and 31 August, respectively. Fishwheel 6 caught the most fish (438), followed by fishwheel 3 (304), fishwheel 5 (167) and fishwheel 4 (111; Table B - 7). However, fishwheels 3 and 6 were operated longer than 4 and 5 (Table A - 2). As with the coho run, we assumed that the fishwheels did not operate for the entire steelhead run.

The first pink salmon was caught on 4 July in fishwheel 2 (Table B - 8). The CPE for pink salmon at the Gitwinksihlkw fishwheels showed two defined peaks in abundance on 2 August (40 fish per hour) and 7 September (35 fish per hour; Figure 7). The 50% point of cumulative CPE occurred on 8 August and 20 August for fishwheels 1 and 2, respectively. The Gitwinksihlkw fishwheels caught 1.7 times as many pinks as the Grease Harbour fishwheels. At Grease Harbour, several small spikes in catches (5-20 fish per hour) of pink occurred between August and September with 48% of the total catch of pinks occurring in fishwheel 5. The combination of shallower baskets and location made fishwheel 5 very effective in capturing pinks at Grease Harbour. The 50% point of cumulative CPE for fishwheels 3, 4, 5 and 6 occurred between 13 August (fishwheel 6) and 15 August (fishwheels 3, 4 and 5; Table B - 8). The largest catch of pink salmon at Gitwinksihlkw and Grease Harbour occurred on 2 August (1552) and 3 August (858), respectively (Table B - 8).

The first chum salmon was caught in fishwheel 3 on 12 July (Table B - 8). The CPE for chum salmon showed a protracted run timing pattern from mid-July to mid-September (Figure 8). At the Gitwinksihlkw fishwheels, the peak abundance of chum occurred on 7 September when 14 were caught. The 50% point of cumulative CPE for fishwheels 1 and 2 occurred on 4

September and 26 August, respectively. At the Grease Harbour fishwheels, the 50% point of cumulative CPE occurred between 12 August (fishwheel 6) and 17 August (fishwheel 4). The Gitwinksihlkw fishwheels caught 2.4 times as many chum salmon than the Grease Harbour fishwheels (Table B - 8). As for coho and steelhead, we believe that the catches of chum in the fishwheels represent only the early-to-mid-timing stocks.

Catches of other salmonid species (Table B - 9) included 347 Dolly Varden (*Salvelinus malma*), 69 cutthroat trout (*O. clarki*), and 67 whitefish (*Prosopium cylindraceum*). Peak catches of Dolly Varden, cutthroat trout and whitefish occurred primarily in September, mid-August, and September, respectively. Catches of non-salmonids species (Table B - 10) included 308 Pacific lamprey, 75 northern pike minnows (*Ptychocheilus oregonensis*), 42 longnose suckers (*Catostomus catostomus*), and 13 prickley sculpin (*Cottus asper*). Peak catches of lamprey, pike minnows, suckers and sculpins occurred primarily in early August, mid-August, mid-August, early September, respectively. Fishwheel 2 captured the majority of Dolly Varden (72%), cutthroats (71%), whitefish (61%), and prickley sculpins (69%). The Grease Harbour fishwheels accounted for 85% of the total catch of lampreys with fishwheels 4 (32%) and 6 (42%) catching the largest amounts (Table B - 10). Fishwheel 5 captured the majority of suckers (52%) and pike minnows (31%).

Fishwheel catches of Pacific salmon smolts included 115 coho, 54 steelhead, 10 chinook, and 9 sockeye (Table B - 11). Peak catches of coho, steelhead, chinook and sockeye smolts occurred in June (and late August), late August, June and early July, respectively. However, the fishwheels are not operated during the majority of the smolt out-migration periods for each species and are limited in catchability due to the size of mesh used.

Tagging

Totals of 6,841 sockeye, 3,600 chinook, 3,317 coho salmon, and 1,346 steelhead were tagged at the fishwheels in 2001 (Table 1). These totals represented 21% of the sockeye (49% at Gitwinksihlkw), 30% of the chinook (45% at Gitwinksihlkw), 15% of the coho (60% at Gitwinksihlkw), and 94% of the steelhead (92% at Gitwinksihlkw) caught in the six fishwheels. The majority (83%) of the salmon and steelhead were tagged at fishwheels 1 and 2. Of the 308 Pacific lamprey captured in 2001, 77% (238) were tagged with the majority tagged at Grease Harbour (85%).

Genetic Stock Identification

Totals of 967 chinook, 1486 sockeye, 424 coho and 1,355 steelhead adipose tissue samples were collected at the Nass fishwheels in 2001 for genetic (DNA) analyses. Samples were primarily collected at the Gitwinksihlkw fishwheels from 7 June to 14 September. Of the total catch at the Gitwinksihlkw fishwheels, the adipose samples represented 21%, 11%, 8%, and 94% of the chinook, sockeye, coho, and steelhead catches in fishwheels 1 and 2, respectively. Additional sampling included 284 sockeye, 201 coho and 53 steelhead adipose tissue samples collected at the Meziadin fishway between 4 July and 15 October 2001. Approximately, 300 sockeye were also sampled for DNA at Hanna and Tintina creeks and two shore sites on

Meziadin Lake. Salmon samples were sent to DFO in Prince Rupert, and steelhead samples were sent to MWLAP in Smithers for analysis. The results from the DNA analyses are reported elsewhere.

Harvesting

A total of 1,901 chinook were selectively harvested from the fishwheels from 2 July to 14 July 2001 as part of the entitlement agreement of the Nisga'a Treaty (Table B - 2). The Grease Harbour fishwheels accounted for 97% of the total chinook that were harvested. Harvested fish were distributed for domestic purposes to all of the Nisga'a communities.

A total of 12,267 sockeye were selectively harvested from the fishwheels from 27 June to 28 July 2001 as part of the entitlement and allocation agreement of the Nisga'a Treaty (Table B - 4). Fishwheels 1, 2, 3, 4, 5, and 6 represented 14%, 21%, 17%, 12%, 16% and 21% of the harvested catch of sockeye, respectively. The Grease Harbour fishwheels accounted for 65% of the total sockeye that were harvested with most of the harvested sockeye landed downstream of fishwheel 3 (Old Aiyansh boat docking site).

A total of 5,745 coho were selectively harvested from the Grease Harbour fishwheels from 10 August to 23 August 2001 as part of the entitlement agreement of the Nisga'a Treaty (Table B - 6). Most of the coho were harvested in fishwheels 5 (27%) and 6 (31%). The Gitwinksihlkw and Grease Harbour fishwheels accounted for 10% and 90% of the total coho harvested, respectively.

Tag Recovery

Of the 15,104 tagged salmon and steelhead released, 9,192 spaghetti-, operculum-, or Floy-tagged fish were recovered at various locations in the Nass watershed (Table 2). Most of the recoveries were at the fishwheels (3,975), followed by Meziadin fishway (3,230), in-river fisheries (1,778) and at the spawning grounds (209).

Of the 1,778 tags returned from in-river fisheries, 383 chinook, 1,073 sockeye, 292 coho and 30 steelhead tags were recovered in 2001 (Table 2). The Nisga'a Fisheries (domestic and individual sale) accounted for 92% (351), 99% (1,073), 99% (289) and 87% (26) of the chinook, sockeye, coho and steelhead tag recoveries by in-river fisheries, respectively. Sport fisheries accounted for 13% (4), 8% (32) and 1% (3) of the steelhead, chinook and coho recoveries, respectively. Other First Nation fisheries (Gitanyow) accounted for 1% (11) of the sockeye recoveries.

Of the 6,841 tags applied to sockeye at the Gitwinksihlkw fishwheels, 2,483 (36.3%) tags were eliminated to account for removals in the Nisga'a in-river fisheries (1,431; Table 3 plus one tag recovered in the August coho fishery), Grease Harbour fishwheels (368), tagging-related mortality and loss of the primary mark (684, assuming a 10% mortality/tag loss rate). The highest proportions of removals occurred between 7 July and 14 July (943 tags) and represented 57% of the tagging totals during that period (Figure 9). This period also corresponded with most of the in-river individual-sale fisheries that were conducted between 7 July and 19 July where 29,364 sockeye were caught.

Of the 3,317 tags applied to coho at the Gitwinksihlkw fishwheels, 969 (29.2%) tags were eliminated to account for removals in the Nisga'a in-river fisheries (324; Table 3), Grease Harbour fishwheels (313), tagging-related mortality and loss of the primary mark (332, assuming a 10% mortality/tag loss rate). Of the coho tags returned in the in-river fisheries, 81% were returned from individual sale fisheries in August. A total of 5,917 coho were caught in the individual sale fisheries and 261 tags were recovered (Table 3).

Of the 3,600 tags applied to chinook at the fishwheels, 1004 (27.9%) tags were eliminated to account for removals in the Nisga'a fisheries (684), Grease Harbour fishwheels (140), tagging-related mortality and loss of the primary mark (180, assuming a 5% mortality/tag loss rate).

Recaptures of tagged fish in the fishwheels indicate that on average chinook salmon exhibited the greatest time between tagging and subsequent recapture among the four tagged species (Table C - 1 and Table C - 2). Operculum-tagged chinook salmon averaged (by fishwheel recaptured) 10 to 17 d at large before recapture in one of the fishwheels (n=653; Table C - 1). The time at large for chinook tagged at Gitwinksihlkw ranged from less than 1 to 59 d (n = 653) between tagging and subsequent recapture in one of the six fishwheels (Table C - 3; Figure 10). The time at large for chinook tagged at Grease Harbour ranged from less than 1 to 39 d (n = 295) between tagging and subsequent recapture in one of the six fishwheels (Table C - 34). There were tagged chinook observed at the Meziadin fishway; however, only one was captured (and the tag number read) in order to avoid handling and delaying the migration of the fish.

Recaptures of tagged sockeye at the fishwheels indicated that on average sockeye spend considerably less time at large than do tagged chinook (Table C - 1; Figure 11). On average, tagged sockeye were recovered at fishwheels 1 and 2 within 3-4 d of being tagged (n=474), and recaptured at Grease Harbour fishwheels (n=651) within 8-9 d (Table C - 1). Recoveries of fish tagged in fishwheel 1 showed a similar distribution of time at large to those fish tagged in fishwheel 2 (Figure 11). The time at large for a tagged sockeye ranged from less than 1 to 49 d (n=1125) between tagging and subsequent recapture in one of the six fishwheels (Table C - 5). A total of 2,982 sockeye tags were counted at the Meziadin fishway with 2,417 tag numbers recovered and read. The average travel time from tagging to the Meziadin fishway was 22.1 d (range between 9 and 71 d; Table C - 5; Figure 12). Numbers of sockeye tags that were recovered at the Meziadin Fishway by tagging period are shown in Table C - 6, Table C - 7, and Table C - 8.

Recaptures of tagged coho at the fishwheels indicate that on average coho spent slightly more time at large than did tagged sockeye (Table C - 1 and Table C - 9). Tagged coho salmon averaged (by fishwheel recaptured) 3 to 11 d at large before recapture in the fishwheels. The time at large for tagged coho salmon ranged from less than 1 to 34 d (n = 1446) between tagging and subsequent recapture in one of the fishwheels (Table C - 9). A total of 173 coho tags were counted at the Meziadin fishway with 153 tag numbers recovered and read. The average travel time from tagging to the Meziadin fishway was 29.8 d (range between 11 and 60 d; Table C - 9; Figure 13).

Recaptures of tagged steelhead at the fishwheels were similar as coho with an average (by fishwheel recaptured) of 7 to 11 d at large before recapture in the fishwheels (n=245; Table C - 2). A total of 9 tagged steelhead were counted, recaptured and the tag numbers read at the Meziadin fishway. Of those recoveries, the travel time from tagging to the Meziadin fishway ranged from 10 to 45 d (average was 24 d; Table C - 2).

Counts of adult salmon at the Meziadin fishway included 116,192 sockeye, 5,942 coho, 613 chinook salmon and 72 steelhead from 4 July to 15 October 2001 (Table D - 1 and Table D - 2). Counts of jack salmon at the Meziadin fishway were 17,673 sockeye, 125 chinook and 42 coho (Table D - 1 and Table D - 2). The peak count of adult chinook at the Meziadin fishway was 64 fish on 5 August (Figure 14; Table D - 2). A total of 66 tagged chinook salmon were counted at the fishway representing 10.8% of the total count. Sockeye counts at the fishway peaked on 13 August with a count of 6,177 adult sockeye (Figure 14; Table D - 1). The daily proportion of the sockeye count that was tagged ranged from 0% (early July) to 7.4% (21 July) and averaged 2.6% (Figure 14; Table D - 1).

Of the 2,982 tagged sockeye observed at the Meziadin fishway, 2,417 (81%) were dipnetted out and their tag numbers were recorded (Table D - 1). The remainder were counted by tag colour as they passed through the viewing chute. The greatest proportions (over 80%) of tags that were counted at the fishway were from 8-14 July and 26 Aug to Sep 1 tag-release periods (Figure 15). Further description and analysis of the tagged sockeye recoveries at the Meziadin fishway are discussed below (see **Run Reconstruction**).

The peak count of adult coho salmon at the Meziadin fishway was 591 fish on 15 September (Figure 14; Table D - 2). A total of 173 tagged coho salmon were counted at the fishway representing 2.9% of the total count. Of the 173 tagged coho observed at the fishway, 153 (88%) were dipnetted out and their tag numbers were recorded for information regarding rates of travel from tagging to the fishway.

Small numbers of steelhead were counted at the Meziadin fishway between 4 July and 15 October (Table D - 2). The first steelhead was counted on 1 September. The majority of steelhead that were counted occurred in mid-September with a peak count of 10 on 20 September. A total of 9 tagged steelhead were counted at the fishway representing 12.5% of the total count.

Upper Nass Escapement Estimates

In-season Escapement Estimates

From mid-June to late August, sockeye escapement estimates were generated daily and provided to the Department of Fisheries and Oceans in Prince Rupert at least three times per week (Table D - 3). Before 28 June, there were insufficient tag recoveries at the Grease Harbour fishwheels to derive a reliable mark-recapture estimate, and escapement estimates were based on the average period-specific expansion factors for fishwheels 1 and 2 from 1994 to 2000, excluding 1998 (extreme low water year).

Post-season Escapement Estimates

For sockeye and coho salmon, a range of post-season Petersen population estimates were calculated assuming a range of tagging-related mortality and tag loss rates from 0% to 20%, removal of tags in the Nisga'a Fisheries and at the Grease Harbour fishwheels (Table 4). The sockeye escapement estimates ranged from 143,150 (20% tag loss rate of tagged fish) to 196,444 (0% tag loss rate of tagged fish) upstream of Grease Harbour.

The pooled Petersen coho salmon escapement estimate ranged from 68,899 (20% tag loss rate of tagged fish) to 91,558 (0% tag loss rate of tagged fish) upstream of Grease Harbour (Table 4). These estimates are based on an adjustment to the total number of coho tagged to account for tag loss/mortality and removals by in-river fisheries and 173 tags observed from 5,942 coho salmon examined at the Meziadin fishway. The tagging of the Nass coho run was incomplete because coho are caught in the Nass River from July to December (i.e., beyond the period when the fishwheels operated at Gitwinksihlkw in 2001 and beyond the time when Meziadin coho move through the lower river). Therefore, these are considered minimum estimates of the Nass coho salmon escapement.

Up to four surveys were conducted on two different spawning grounds (plus the Meziadin fishway counts) to obtain information to estimate the chinook salmon escapement to the upper Nass (Table 5). A total of 1,614 chinook were examined and 144 tags were recovered for an estimate of 28,925 (upstream of Grease Harbour) with 95% confidence intervals of 24,596 to 34,011. This estimate is based on an adjustment to the total number of chinook tagged (2,596 adjusted vs. 3,600 tagged). The effective number of chinook that was tagged was reduced by 1004 tagged fish to account for tag loss/mortality (5% or 180 fish), removals at the fishwheels (140) and removals by in-river fisheries (684 fish; Table 3 plus two tags recovered during the August individual-sale fishery).

The proportions of the chinook, sockeye, and coho salmon run captured in all the fishwheels based on the fishwheel catches and mark-recapture derived population estimates above Gitwinksihlkw were 33.6%, 16.0%, and 25.4%, respectively (Table 6). In 2001, fishwheel 6 captured the greatest proportion of the run for all species combined (5.2% each) followed by fishwheels 5 (3.8%), 2 (3.7%), 1 (3.6%), 3 (3.5%) and 4 (3.1%).

Run Reconstruction

Analysis of the 2,417 spaghetti tags recovered from sockeye at the Meziadin fishway revealed a positively skewed distribution of travel times with a mode of 15.0 d, a median of 21.0 d, and a mean of 22.1 d (± 7.7 S.D.; Figure 12a, Table 7 and Table C - 5). The tag recovery data indicate an average speed from the fishwheels to the fishway of 6.8 km per day (range between 2.1 and 16.7 km per day). The mean travel times for tagged sockeye salmon travelling from the fishwheels to the Meziadin fishway (by tagging period) revealed a general pattern of decreasing travel times (increasing migration speed) through the season, a similar pattern as observed in past years (Figure 12b; Annual Reports). A slight increase in the mean travel rate was observed in the third week of August and this is presumed to be caused by differences in Nass River discharges. Coho salmon exhibited a similar migration pattern from the fishwheels to the fishway with decreasing mean travel times by tagging period; but with an overall slower mean travel time (mean=29.8 d ± 9.0 S.D.; Figure 13). The tag recovery data for coho indicated an average speed from the fishwheels to the fishway of 5.0 km per day (range between 2.5 and 13.6 km per day).

The reconstructed sockeye salmon abundance at Gitwinksihlkw indicated that the catch efficiencies of fishwheels 1 and 2 peaked in early-to-mid July with fishwheels 1 and 2 capturing an estimated 2.9% (daily range from 0.5% to 6.5%) and 4.0% (daily range from 1.6% to 9.4%) of the sockeye run, respectively (Figure 16). The efficiency of the two fishwheels appeared to co-vary with similar catch efficiency patterns over time. However, the estimated daily efficiency of the two Gitwinksihlkw fishwheels did not show a consistent trend throughout the season. The fishwheel efficiency did not appear to be correlated with the abundance (Figure 16), suggesting density-independent catchability (fishwheel efficiency).

The catch efficiency of the Gitwinksihlkw fishwheels appeared to be affected by the absolute water level of the Nass River (Figure 17). Relatively high, declining water levels in early-to-mid-July produced the highest fishwheel catch efficiencies while low water levels (<2 m) produced the lowest fishwheel catch efficiencies at the Gitwinksihlkw fishwheels (Figure 17). High water levels in mid-June, mid-July and early September caused the fishwheels to be shutdown but it is presumed that these water levels result in the temporary interruption of the sockeye run passing Gitwinksihlkw. Caution should be used in interpreting these data because the high catch efficiencies that were estimated in late August and September are based on a relatively small number of fish recovered.

Age and Length Sampling

Most (89.9%) of the chinook salmon that returned to the Nass River in 2001 were 4-(18.0%) and 5-(71.9%) year-old fish; between 71.5% (5-year-old) and 18.0% (4-year-old) left freshwater during their second year of life (4_2 and 5_2) based on chinook sampled at the fishwheels (n=582) and weighted using the CPE in the Gitwinksihlkw fishwheels (Table 8). Other age classes were 6_2 (7.4%), 3_2 (1.9%), 6_3 (0.7%) and 5_3 (0.4%). The chinook salmon age and length data are presented in Table E - 1 and summarized in Table 8 and Table 9. Ages could not be determined for 25% of the chinook salmon sampled in 2001 (Table E - 1).

Sockeye salmon that returned to the Nass River in 2001 were predominantly split between 4-year-old fish (28.1%) and 5-year-old fish (49.2%; brood years 1996 and 1997, Table 8). However, a large proportion of 6-year-old fish also returned in 2001 (22.3%; brood year 1995). Weighting by weekly re-constructed abundance, the dominant age classes were 5_2 (33.3%), 4_2 (23.9%), 6_3 (22.3%), 5_3 (15.9%), and 4_1 (3.9%; Table 8). The sockeye salmon age and length data are presented in Table E - 2 and summarized in Table E - 3, Table E - 4, Table 8 and Table 9. Ages could not be determined for 5% of the sockeye salmon sampled (n=1571; Table E - 2). The 5-year-old fish dominated the run through most of the season except from weeks 29 to 31 when 4-year-old fish were in equal proportions (Figure 18). The return of 6-

year-old fish was in low proportions but with steadily increasing proportions as the season progressed with higher proportions detected between weeks 32 to 37. Of the 5-year-old fish that returned, age class 5_2 fish dominated throughout the season except from weeks 29 to 33 when 5_3 fish were in almost equal proportions (Figure 18). Unlike past years, age 5_3 fish did not dominate the run as the season progressed (Annual Reports).

Coho salmon that returned to the Nass River in 2001 were dominated by 3-year-old fish (83.3%; Table 8). Weighting by CPE in the Gitwinksihlkw fishwheels, the age classes that returned in 2001 were 3_2 (83.3%), 4_3 (16.6%), and 5_4 (0.2%). The coho salmon age and length data are presented in Table E - 5 and summarized in Table 8 and Table 9. Ages could not be determined for 30% of the coho salmon sampled (n=1067; Table E - 5).

Mean length data by age for sockeye, chinook and coho salmon are summarized in Table 9. The most frequent mean nose-fork length for sockeye, chinook and coho salmon was 64.7 cm (5_2 fish, n=540), 91.2 cm (5_2 fish, n=415), and 62.4 cm (3_2 fish, n=620), respectively.

DISCUSSION

Operational Evaluation

The water levels in 2001 were ideal for fishwheel operations with higher than average annual catch rates for chinook, sockeye and coho observed at each of the six fishwheels (Table 10; Figure A - 1). Higher than average water levels in the third week of June, third week of July and late August contributed to fishwheels 1, 4 and 6 capturing record high amounts of chinook and coho. Fishwheel 6 provided the most consistent fishing effort throughout the entire season and captured an estimated 5.2% of the sockeye, chinook and coho runs combined (range between 3.5% and 9.0%), followed by fishwheels 5 (3.8%), 2 (3.7%), 1 (3.6%), 3 (3.5%) and 4 (3.1%; Table 6).

Catch rates for chinook were high for all fishwheels (5.6% to 9.0%), except for fishwheel 5 (3.2%), with a combined total of 33.6% (Table 10). The lower capture efficiency observed at fishwheel 5 was partially due to not operating during the start of the chinook run; however, the shallower baskets on the fishwheel may have a lower efficiency of catching chinook (i.e., chinook may be swimming lower in the water column and escaping capture). Catch rates for sockeye ranged between 2.3% (fishwheel 5) to 4.0% (fishwheel 2) with a combined total of 16% (Table 10). Catch rates for coho ranged between 2.3% (fishwheel 2) and 7.4% (fishwheel 5) with a combined total of 25.4% (Table 10). When comparing all fishwheels, fishwheel 2 typically has the highest and lowest catch rates for sockeye and coho, respectively, and this is assumed to be a function of the water levels experienced during the sockeye (higher water levels) and coho (lower water levels) runs that affects the operating efficiency of the fishwheel. Total catch efficiencies at the Gitwinksihlkw fishwheels were higher than mean estimates from 1994 to 2000 for chinook (12.6% vs. 8.7%), sockeye (6.8% vs. 5.6%) and coho (6.2% vs. 4.8%). Total catch efficiencies at the Grease Harbour fishwheels were higher than mean estimates from 1994 to 2000 for chinook (26.2% vs. 10.3%), sockeye (11.1% vs. 6.1%) and coho (21.4% vs. 6.3%).

Upper Nass Escapement Estimates

The in-season period-specific catchability expansion method for estimating sockeye abundance at Gitwinksihlkw provided a relative index of the run from early June to 26 June (25,000 estimated vs. 16,000 run-reconstructed) before sufficient tag recoveries were obtained at the Grease Harbour fishwheels for generating the mark-recapture estimate (Table D - 3). Since water levels were not typical of past years (i.e., higher in mid-June and mid-July and lower for most of August when compared to mean levels from 1992 to 2000), the period-specific catchability estimates were generally poorer estimates than the mark-recapture estimates. The final period-specific catchability estimate was 8% higher than the final reconstructed run at Gitwinksihlkw. The mark-recapture estimate resulted in an over-estimate (up to 40%) of the abundance at Gitwinksihlkw early in the season but improved to 2% of the final reconstructed estimate by early August (Table D - 3). The in-season mark-recapture estimates were reliable indices of abundance as in other years, providing reasonable estimates during most of the season, especially during the commercial and in-river fisheries in July.

Three different methods were used in-season to generate an estimate of abundance for chinook at Gitwinksihlkw for comparison with the final estimate. The first in-season estimate was generated using the mean catchability expansion factor and resulted in an estimate that was 45% higher than the post-season estimate. The second in-season estimate was generated using a high efficiency catchability expansion factor, based on ideal fishing conditions created by the 2001 water levels, and resulted in an estimate that was 14% higher than the final estimate for chinook. The third in-season estimate was generated using mark-recapture data at the Grease Harbour fishwheels and resulted in an estimate that was 5% lower than the final estimate for chinook. These data were based on the total catch of adults (including recaptures of tagged fish) at the Grease Harbour fishwheels (8,027 chinook), recaptures of fish that were tagged at Gitwinksihlkw (452 chinook), removals of tagged fish to account for tagging-related mortality/tag loss (5% chinook), and selective removal of tags in the Nisga'a in-river fisheries below Gitwinksihlkw (24 chinook, Table 3). Although the mark-recapture estimate was the closest in-season estimate to the final estimate for chinook, Link and Nass (1999) caution the use of this method because of a potential bias occurring, producing underestimates of abundance, in any mark-recapture estimate when unmarked fish move by the recapture fishwheels one to two weeks earlier than marked fish, catch rates of the fishwheels vary substantially over the season, and when tagged fish drop back below the tagging site for up to two weeks. This study was the first to find the mark-recapture estimate close to the final estimate for chinook even though the mean drop back time after tagging was observed between 10 and 12 d (Table C - 1; Annual Reports).

The three methods described above for chinook were also used to generate in-season estimates of abundance for coho at Gitwinksihlkw. The mean catchability expansion factor method resulted in an estimate that was 36% higher than the post-season estimate for coho. The high efficiency catchability expansion factor method resulted in an estimate that was 1% lower than the final estimate for coho. The mark-recapture method based on data collected at the Grease Harbour fishwheels resulted in an estimate that was 49% lower than the final estimate for coho. These data were based on the total catch of adult coho (including recaptures of tagged fish) at the Grease Harbour fishwheels (18,382 coho), recaptures of fish that were tagged at

Gitwinksihlkw (1199 coho), removals of tagged fish to account for tagging-related mortality/tag loss (10% coho), and selective removal of tags in the Nisga'a in-river fisheries below Gitwinksihlkw (14 coho; Table 3).

The validity of the assumptions associated with the Petersen estimation procedures that generate the mark-recapture estimates from the fishwheel program has been extensively discussed in other reports (Annual Reports). These authors concluded that some differential loss of tagged fish likely occurs each year, primarily due to handling effects and selective removal from the Nisga'a in-river fishery. The bias from these losses would result in an overestimate of the escapement if one assumed equal survival between tagged and non-tagged fish. To correct for these biases, we used a tag removal rate of 36% for sockeye salmon to derive a population estimate in 2001, assuming a tag loss rate of 10% (tagging-related mortality and loss of the primary mark) and approximately 26% of the tags were removed in the in-river fisheries (including removals in the Grease Harbour fishwheels (5%; Table 3 and Table 4). The 10% tag loss rate was based on radio telemetry data from Link and Gurak (1997) where 11 of 118 radio-tagged sockeye were attributed to tagging-related mortality or loss of the primary mark.

For chinook salmon, a tag removal rate of 28% was estimated in 2001 by assuming a 5% tag loss rate (tagging-related mortality and loss of the primary mark) and approximately 23% of the tags were removed in the in-river fisheries (including removals in the Grease Harbour fishwheels (4%; Table 3 and Table 5). The 5% tag loss rate is based on data from the chinook radio-telemetry studies conducted in 1992 and 1993 (Koski et al. 1996a,b).

For coho salmon, a tag removal rate of 29% was used to derive a population estimate in 2001, assuming a tag loss rate of 10% (tagging-related mortality and loss of the primary mark) and approximately 19% of the tags were removed in the in-river fisheries (including removals in the Grease Harbour fishwheels (9%; Table 3 and Table 4). The 10% tag loss rate was used to be comparable with sockeye but may be biased high when compared to previous years (Annual Reports).

Summary of Final Escapement Estimates

The estimated in-river harvest of chinook salmon in the Nisga'a fishery in 2001 was 10,455 (Baxter et al. 2002) and the estimated sport fishery in-river harvest was 722 (JTC 2002; Baxter 2002; Table 11). The escapement of chinook salmon to Gitwinksihlkw in 2001 was estimated to be 36,061 by adding the estimates of the net chinook spawning escapement (28,329) generated from upstream spawning surveys, the harvests above Grease Harbour (596), the harvests between Gitwinksihlkw and Grease Harbour (5,778) and the estimated escapement at Tseax and Seaskinnish rivers (1,358; Table 11). Adding in-river harvests below Gitwinksihlkw to the estimate at Gitwinksihlkw resulted in an escapement estimate of 41,059 chinook salmon to the Nass River. The estimated return to Canada of Nass chinook in 2001 was 49,749 accounting for estimates of marine harvests (3,857) and coastal escapement (4,833; Table 11). The coastal escapement of Nass chinook was estimated by expanding the count of chinook at the Kincolith fence (1225) by the historical proportion (0.25349) of DFO, Area 3, coastal counts to Kincolith (JTC 2002).

Using a similar method as above, the escapement of sockeye salmon to Gitwinksihlkw in 2001 was 204,533 with a net sockeye escapement estimate of 167,250 (Table 4 and Table 11). The estimated total escapement of sockeye to the Nass River (233,046) and return to Canada (380,692) was derived by adding the appropriate harvests (in-river [65,796] and marine [147,646]) to the net escapement estimate (Table 11).

A minimum estimate of the net spawning escapement for Nass River coho was 79,787 (Table 11). Estimates of the coho escapement to Gitwinksihlkw (89,453), the Nass River (137,884) and return to Canada (198,478) were derived by adding the appropriate estimates of harvests (in-river [14,356] and marine [12,955]), lower Nass (43,741) and coastal escapements (47,639; Table 11). Lower Nass and coastal escapements of Nass coho were estimated by JTC (2002).

An estimate of the upper Nass index of escapement for pink salmon in 2001 was made using catch and catch rate data from the Gitwinksihlkw fishwheels. First, an estimate of escapement was calculated at fishwheels 1 and 2 by dividing the catch of pinks (Table 1) by assumed catch efficiencies at fishwheel 1 (5.7%) and 2 (7.9%). Secondly, the results (fishwheel 1=215,546 and fishwheel 2=181,461) were averaged to produce an index of upper Nass escapement of 198,504 pinks. The catch efficiencies that were used for fishwheel 1 and 2 were double the efficiencies calculated for sockeye and assumed that pinks were more vulnerable (density dependent) to capture than sockeye (Table 6). The assumption of catch vulnerability of pink salmon was based on observations from the Taku River fishwheel program (M. Link, LGL Limited BC, pers. comm.).

An estimate of the upper Nass index of escapement for chum salmon in 2001 was also made using the same method as described for pinks. The catch of chum at fishwheels 1 and 2 were divided by assumed catch efficiencies at fishwheel 1 (2.9%) and 2 (4.0%), resulting in estimates of 839 and 2,302 for fishwheels 1 and 2, respectively. The final upper Nass estimate was 1,571, calculated by averaging the estimates at fishwheel 1 and 2. The catch efficiencies that were used to generate the estimates were the same as sockeye, assuming that chum have a similar vulnerability to capture as sockeye.

Based on the Meziadin fishway count of sockeye salmon and the system-wide escapement estimate generated from the fishwheel tagging program, the Meziadin stock comprised 67% of the Nass sockeye escapement estimate to Gitwinksihlkw in 2001. The tag-based estimate was 1.2% larger than the estimate derived from the microsatellite DNA method (Beacham and Wood 1999; Table 12). The tag-based estimate (67.2%) was derived by expanding the Meziadin fishway count of sockeye salmon (116,192) by the estimated harvest rate above Gitwinksihlkw (18.2% [37,283 harvest divided by 204,533 escapement to Gitwinksihlkw]) and dividing the result (137,372) by the escapement estimate to Gitwinksihlkw (204,533). The genetic estimate (68.4%) was derived by summing the weekly Meziadin stock estimates (percent Meziadin found in the fishwheel genetic [DNA] samples to the abundance estimate from the run-reconstructed results) and dividing the result (139,927) by the escapement estimate to Gitwinksihlkw (204,533). The results of the genetic analyses of fishwheel samples (n=1486) were provided by the Pacific Biological Station, BC (Terry Beacham, DFO-Nanaimo, pers. comm.). The results of the tag-based and genetic estimates have been similar since 1999

(0.4% difference) and are considered more reliable than the scale-based method (Table 12). Continued research of the tag- and genetic-based methods should be conducted over the next few years to verify that the tag-based method can accurately estimate Nass sockeye abundance and stock composition for Meziadin sockeye salmon. However, the genetic-based method may become very important to management of Nass sockeye stocks in the future with the ability to estimate stock composition of non-Meziadin stocks.

Fishwheels as a Test Fishery

Since 1994, the inter-annual variability of the efficiency or catchability (*q*) of the Nass River fishwheels continues to be more reliable than the past methods (i.e., Monkley Dump gillnet test fishery; Annual Reports). Several factors are thought to affect the fishwheel catchability at Gitwinksihlkw as abundance (r^2 values ranged between 0.02 and 0.05) and water level (r^2 values ranged between 0.25 and 0.34) data alone did not appear to be directly related to the catch efficiencies of fishwheels 1 and 2 in 2001 (Figure 16 and Figure 17). Abundance, migration behaviour and timing, mixing of fish species, water level and turbidity may all play factors in affecting catch efficiencies of the fishwheels as fish pass Gitwinksihlkw. Sufficient data regarding all these factors have not yet been collected to quantify their influence on the catch efficiency of the fishwheels. If a reliable relationship is determined in the future for one or more of these factors, improvements to the in-season estimates of *q* may be possible. Until that relationship is determined and evaluated, it is essential that the tagging and mark-recapture program remain an integral component of the fishwheel program for assessing the in-season variation in the catchability of the fishwheels.

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TABLES

Table 1. Numbers of each species of salmon caught and tagged at six fishwheels on the Nass River, 2001.

Location		Chinook			Sockeye			Coho			Steelhead		Pink	Chum
		Catch			Catch			Catch			Catch		Catch	Catch
	FW	Adults [a]	Jacks	Tagged	Adults [a]	Jacks	Tagged	Adults [a]	Jacks	Tagged	Adults [a]	Tagged	Adults	Adults
Gitwinksihlkw (GW)														
	1	2,463	164	909	5,850	1,747	2,890	3,432	86	2,090	118	112	12,330	24
	2	2,068	159	1,149	8,085	1,698	3,951	2,090	37	1,227	297	270	14,346	91
sub-total		4,531	323	2,058	13,935	3,445	6,841	5,522	123	3,317	415	382	26,676	115
Grease Harbour (GH)														
	3	1,626	63	408	5,089	1,189	0	3,150	108	0	304	291	2,590	19
	4	2,412	92	410	3,974	1,430	0	2,249	113	0	111	106	1,318	5
	5	932	123	181	3,865	2,663	0	5,932	270	0	167	151	7,660	17
	6	2,605	231	543	5,958	2,806	0	5,852	245	0	438	416	4,264	6
sub-total		7,575	509	1,542	18,886	8,088	0	17,183	736	0	1,020	964	15,832	47
Grand Total		**12,106**	**832**	**3,600**	**32,821**	**11,533**	**6,841**	**22,705**	**859**	**3,317**	**1,435**	**1,346**	**42,508**	**162**
Mean Averages (1994-2000)														
FW 1 & 2		1,599	149	1,237	14,903	784	7,560	2,551	201	1,905	232	166	10,236	167
FW 3 & 4		1,216	106	443	11,704	776	na	1,632	158	425	268	198	3,851	59
All Fishwheels		3,014	275	1,680	27,039	1,656	7,560	4,711	388	2,330	575	435	14,419	231

[a] Adult tallies do not include any tagged fish that were recaptured in the fishwheels. See Appendix B for complete catch and recapture data.

Table 2. A summary of the number of tag recoveries by location for the tags applied at the Nass fishwheels, 2001.

Species	Number of fish tagged	Location					Percent recovered
		Meziadin fishway[a]	Spawning grounds[b]	Fishwheels[c]	Fisheries[d]	Total	
Chinook	3,600	66	80	1,056	383	1,585	44.0
Sockeye	6,841	2,982	65	1,152	1,073	5,272	77.1
Coho	3,317	173	2	1,514	292	1,981	59.7
Steelhead	1,346	9	62	253	30	354	26.3
Totals	15,104	3,230	209	3,975	1,778	9,192	60.9

[a] Includes all tagged fish observed but not necessarily recovered.

[b] Chinook tags were recovered at Damdochax (50), Kwinageese (30). Sockeye tags were recovered at Gingit (63) and Zolzap (2). Steelhead tags were recovered by MWLAP and NF staff at Cranberry (10), Meziadin (15), Kwinageese (15), Bell-Iving (11) and the Upper Nass area (11).

[c] Most of these fish were released back to the river so some of them may have been subsequently counted or recovered. A total of 140 chinook, 368 sockeye and 313 coho tags were removed from the Grease Harbour fishwheels during harvesting (27 June to 23 August).

[d] Includes recoveries in sport (32 chinook, 3 coho and 4 steelhead) and in-river fisheries (351 chinook, 1073 sockeye, 289 coho and 26 steelhead).

Table 3. Estimates of tag removals in Nisga'a domestic and individual-sale fisheries for sockeye, chinook and coho salmon on the Nass River, 2001.

		Domestic Fishery (DF)			Individual-sale Fishery (ISF)				Estimated
Stratum	Total catch[a]	Tags returned	Estimated Catch	% tags	Tags returned[b]	Obs. Catch	% tags	Obs. return rate (%)[c]	Tags Removed[d]
Sockeye									
Upper	26685	117	12018	1.0%	589	14667	4.0%	100.0%	1072
Middle	11853	73	2411	3.0%	276	9442	2.9%	100.0%	346
Lower	12240	1	6985	0.0%	5	5255	0.1%	100.0%	12
Total	**50778**	**191**	**21414**	**0.9%**	**870**	**29364**	**3.0%**	**100.0%**	**1430**
Chinook									
Upper	3191	35	1491	2.3%	187	1631	11.5%	90.0%	407
Middle	1537	66	1126	5.9%	55	373	14.7%	90.0%	252
Lower	2390	4	2146	0.2%	2	223	0.9%	90.0%	24
Total	**7118**	**105**	**4763**	**2.2%**	**244**	**2227**	**11.0%**	**90.0%**	**682**
Coho									
Upper	4028	2	874	0.2%	146	3154	4.6%	100.0%	186
Middle	2127	24	279	8.6%	108	1848	5.8%	100.0%	124
Lower	1778	1	863	0.1%	7	915	0.8%	100.0%	14
Total	**7933**	**27**	**2016**	**1.3%**	**261**	**5917**	**4.4%**	**100.0%**	**324**

[a] Catch and tag removals are for periods commencing 10th June with the start of the operation of the fishwheels.

[b] Tags returned for sockeye and chinook include all IS fisheries except the August coho fishery.

[c] Obs. return rates=100% (sockeye, coho) and 90% (chinook).

[d] Estimated tags removed = Total catch (all fisheries) x % tags returned in the sale fishery.

Table 4. Population estimates derived from tagging of adult sockeye and coho salmon at the Nass River fishwheels and recovery of tags at the Meziadin fishway, 2001. The best population estimates are in blocked, bolded italics.

	Sockeye	Coho
Number of fish tagged (**M**) at Gitwinksihlkw (GW)	6,841	3,317
Number of tags removed above GW as mortality or loss of primary mark assuming a range of tag loss rates		
Rate		
0%	0	0
5%	342	166
10%	684	332
15%	1,026	498
20%	1,368	663
Est. number of tags removed from Nisga'a fishery above GW [a]	1,799	637
Net number of tags available for recapture upstream of Grease Harbour (**M_1**) assuming a range of tag loss rates		
Rate		
0%	5,042	2,680
5%	4,700	2,514
10%	4,358	2,348
15%	4,016	2,182
20%	3,674	2,016
Number fish examined for tags at Meziadin fishway (**C**)	116,192	5,942
Number of tagged fish observed at Meziadin Fishway (**R**)	2,982	173
Pooled Petersen population estimates upstream of Grease Harbour assuming a range of tag loss rates (M_1, C, R)		
Rate		
0%	196,444	91,558
5%	183,120	85,893
10%	***169,797***	***80,228***
15%	156,474	74,564
20%	143,150	68,899
Bounds for Best Petersen estimate		
Lower 95 % CL	163,813	69,185
Upper 95 % CL	176,000	93,024

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[a] The estimated number of tags removed from the Nisga'a fishery include estimated tag removals in domestic and individual-sale fisheries (Table 3) and tags recovered at the fishwheels during harvesting.

Table 5. Summary of escapement survey data and estimated escapement for chinook salmon upstream of Grease Harbour, 2001.

System	No. of surveys	No. of fish examined		Total fish examined	No. of tags	Mark rate (examined/tags)
		Live	Carcasses			
Damdochax	4		566	566	50	11.3
Kwinageese	3		435	435	28	15.5
Meziadin	fishway count	613		613	66	9.3
Totals		613	1,001	1,614	144	11.2

Total tags applied: 3,600

[a]Corrected tag total: 2,596

Total fish examined: 1,614

Total tags recovered: 144

Adjusted Petersen escapement estimate past the Grease Harbour fishwheels: 28,925

Lower 95% C.I.: 24,596

Upper 95% C.I.: 34,011

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[a] Adjusted for tag loss/differential mortality (5% or 180 fish), estimate of removals in the in-river fisheries (684) and tags recovered at the fishwheels during harvesting (140).

Table 6. The estimated percentages of adult chinook, sockeye, and coho captured with six fishwheels on the Nass River, 2001. The percentages were derived using the Petersen escapement estimates and 95% confidence intervals (Tables 4 & 5). The estimated abundance past fishwheels 3, 4, 5 and 6 was determined by subtracting the estimated Nisga'a fishery harvest above Gitwinksihlkw from the estimated escapement above Gitwinksihlkw. The escapement at Gitwinksihlkw was used for calculating the "all fishwheels" percentages.

	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Fishwheel 5			Fishwheel 6			All fishwheels		
		Range			Range			Range			Range			Range			Range			Range	
Species	%	Min	Max	%	Min	Max	%	Min	Max	%	Min	Max	%	Min	Max	%	Min	Max	%	Min	Max
Sockeye	2.9	2.8	2.9	4.0	3.8	4.1	3.0	2.9	3.1	2.3	2.3	2.4	2.3	2.2	2.4	3.5	3.4	3.6	16.0	15.6	16.5
Chinook	6.8	6.0	7.8	5.7	5.0	6.5	5.6	4.8	6.6	8.3	7.1	9.8	3.2	2.7	3.8	9.0	7.7	10.6	33.6	29.4	38.2
Coho	3.8	3.4	4.4	2.3	2.0	2.7	3.9	3.4	4.6	2.8	2.4	3.3	7.4	6.4	8.6	7.3	6.3	8.5	25.4	22.2	29.0
Total	3.6	3.3	3.8	3.7	3.5	4.0	3.5	3.3	3.8	3.1	2.8	3.4	3.8	3.5	4.2	5.2	4.8	5.6	20.5	19.1	21.9

Table 7. Means, standard deviations and 95% confidence intervals for sockeye travel times from the fishwheels to the Meziadin fishway for 3-day release periods, 2001.

Release periods	Number of recoveries	Mean travel time (d)	Standard deviation	95 % Confidence Interval	
				Lower	Upper
Period ending date					
09-Jun	9	41.2	7.79	36.1	46.3
12-Jun	6	41.3	7.17	35.6	47.1
15-Jun	12	39.7	7.98	35.2	44.2
18-Jun	31	34.3	5.76	32.3	36.3
21-Jun	13	28.8	3.93	26.7	31.0
24-Jun	11	32.5	5.57	29.2	35.7
27-Jun	192	28.3	6.02	27.5	29.2
30-Jun	108	28.5	4.29	27.7	29.3
03-Jul	90	28.9	3.87	28.1	29.7
06-Jul	78	26.7	2.40	26.1	27.2
09-Jul	87	24.8	2.44	24.3	25.4
12-Jul	103	25.0	5.26	24.0	26.0
15-Jul	115	22.1	3.62	21.5	22.8
18-Jul	193	21.4	4.50	20.7	22.0
21-Jul	156	19.9	4.90	19.1	20.7
24-Jul	57	16.7	5.87	15.2	18.2
27-Jul	285	15.6	4.15	15.1	16.0
30-Jul	281	17.4	7.11	16.6	18.3
02-Aug	189	18.5	8.49	17.3	19.7
05-Aug	108	19.2	7.66	17.7	20.6
08-Aug	104	22.4	8.78	20.7	24.1
11-Aug	71	26.8	8.46	24.8	28.8
14-Aug	23	26.9	4.54	25.1	28.8
17-Aug	13	29.5	2.85	27.9	31.0
20-Aug	8	26.4	2.62	24.6	28.2
23-Aug	17	24.8	2.75	23.5	26.1
26-Aug	18	20.3	1.64	19.5	21.0
29-Aug	6	17.2	1.94	15.6	18.7
01-Sep	19	16.1	2.66	14.9	17.2
04-Sep	9	16.4	5.25	13.0	19.9
07-Sep	4	13.0	2.94	10.1	15.9
10-Sep	1	9.0			
All periods	2,417	22.1	7.74	21.7	22.4

Table 8. Summary of age composition of chinook, sockeye, and coho salmon sampled at the Nass River fishwheels, 2001. Chinook and coho portions are weighted by weekly Gitwinksihlkw fishwheel CPE; sockeye composition weighted by the weekly escapement estimates generated by the mark-recapture data. A dash denotes no fish were sampled from that age class. The data underestimate the proportion of chinook under 50 cm nose-fork (32s and 43s) because these fish were not routinely sampled.

	Estimated percent of total run												
	Brood year / Age class												
	1998		1997			1996				1995			1994
Species	31	32	41	42	43	51	52	53	54	62	63	64	72
Chinook	-	1.9	-	18.0	-	-	71.5	0.4	-	7.4	0.7	-	-
Sockeye	0.2	0.1	3.9	23.9	0.3	-	33.3	15.9	-	-	22.3	-	-
Coho	-	83.3	-	-	16.6	-	-	-	0.2	-	-	-	-

Table 9. Mean nose-fork length (cm) of salmon (by age) sampled at the Nass River fishwheels, 2001.

Species	Age class	Number of fish	Mean length (cm)	Standard deviation (cm)
Sockeye	31	3	57.0	9.6
	32	1	66.0	
	41	55	61.1	4.5
	42	352	58.6	4.1
	43	4	47.3	2.8
	52	540	64.7	3.7
	53	235	60.6	3.5
	63	310	66.5	3.9
	Total	1500	62.8	5.0
Chinook	32	13	45.7	6.0
	42	100	69.5	5.9
	52	415	91.2	5.9
	53	4	62.8	17.7
	62	45	99.0	6.2
	63	5	93.4	5.8
	Total	582	86.9	12.4
Coho	32	620	62.4	7.5
	43	130	62.5	7.5
	54	2	57.0	11.3
	Total	752	62.4	7.5

Table 10. The estimated annual catch rates (% of the run captured) of the Nass River fishwheels for chinook, sockeye and coho salmon, 1992-2001. The total catch rate for each species is the proportion of the total catch in all fishwheels to the escapement at Gitwinksihlkw.

	Chinook catch rates (%)							Sockeye catch rates (%)							Coho catch rates (%)						
Year	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Total	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Total	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Total
1992 [a]	1.3	0.8					2.1	1.0	0.3					1.3	0.8	0.2					0.9
1993 [b]	1.8	0.7					2.5	1.1	0.6					1.7	0.9	0.8					1.7
1994 [c]	3.0	5.4	2.9				11.3	1.6	3.9	2.2				7.7	1.6	1.8	0.9				4.3
1995 [d]	3.2	4.8	1.4	0.4			9.8	1.8	2.8	1.8	1.2			7.6	3.4	0.5	1.0	2.2			7.2
1996 [e]	2.4	3.8	1.6	1.6			9.4	2.7	3.9	2.1	1.4			10.1	3.0	1.6	1.6	2.0			8.2
1997 [f,g]	5.1	5.9	3.5	4.1			18.6	1.8	3.3	2.9	2.7			10.7	3.8	2.5	1.6	2.3			10.2
1998 [h]	1.4	3.4	5.3	2.5			12.6	0.6	1.3	2.6	1.8			6.2	3.1	0.9	1.6	3.3			8.9
1999 [i]	2.8	7.3	8.8	9.1			28.0	2.9	5.6	4.7	4.9			18.0	2.8	2.9	1.3	2.9			9.9
2000 [j]	3.0	5.9	3.8	4.2	2.9	4.1	23.9	2.2	3.3	2.9	2.8	1.5	2.1	14.8	2.4	1.6	1.3	1.4	3.0	2.2	11.9
2001	6.8	5.7	5.6	8.3	3.2	9.0	33.6	2.9	4.0	3.0	2.3	2.3	3.5	16.0	3.8	2.3	3.9	2.8	7.4	7.3	25.4
92-01 Mean	3.1	4.4	4.1	4.3	3.0	6.6		1.9	2.9	2.8	2.4	1.9	2.8		2.6	1.5	1.7	2.4	5.2	4.7	
94-01 Mean	3.5	5.3	4.1	4.3	3.0	6.6		2.1	3.5	2.8	2.4	1.9	2.8		3.0	1.7	1.7	2.4	5.2	4.7	
Per fishwheel avg., 94-01							**4.4**							**2.7**							**2.5**

[a] Link, M. R., K. K. English, and R. C. Bocking. 1996. The 1992 Fishwheel Project on the Nass River and an Evaluation of Fishwheels as an In-season Management and Stock Assessment Tool for the Nass River. Can. Manuscr. Rep. Fish. Aquat. Sci. 2372: x + 82 p.

[b] Link, M. R., and K. K. English. 1996. The 1993 Fishwheel Project on the Nass River and an Evaluation of Fishwheels as an In-season Management and Stock Assessment Tool for the Nass River. Can. Tech. Rep. Fish. Aquat. Sci. 2130: xi + 103 p.

[c] Link, M. R., and K. K. English. 1997. The 1994 Fishwheel Project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2421: xi + 93 p.

[d] Link, M. R., and A. C. Gurak. 1997. The 1995 Fishwheel Project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2422: xi + 99 p.

[e] Link, M. R. 1999. The 1996 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2476: xi + 92 p.

[f] Link, M. R., and B. L. Nass. 1999. Estimated abundance of chinook salmon returning to the Nass River, BC, 1997. Can. Manuscr. Rep. Fish. Aquat. Sci. 2475: x + 64 p.

[g] Link, M. R., R. F. Alexander, and A. C. Blakley. 2001. The 1997 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2555: xi + 100 p.

[h] Alexander, R. F. and M.R. Link. 2001. The 1998 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2556: xi + 111 p.

[i] Alexander, R. F. 2001. The 1999 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2588: xi + 113 p.

[j] Alexander, R. F., M. R. Link, and R.C. Bocking. 2002. The 2000 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2616: xi + 118 p.

Table 11. Estimates of catch, run size and net escapement to the Nass Area for sockeye, chinook and coho salmon, 2001.

		Area								
Species - Catch/Run Size	Net Escapement [1]	Above Grease Harbour (A)[2]	Grease Harbour (B)[3]	GW to Grease (C)[4]	GW	(D)[5]	Mouth to GW (E)[6]	Total to Nass R. (F)[7]	Marine Areas (G)[8]	Total Return to Canada (H)[9]
Sockeye										
Catch										
Nisga'a				34,736			28,513	63,249	13,934	77,183
Other Native		2,544						2,544	2,000	4,544
Sport		3						3		3
Commercial									131,712	131,712
Catch Total		2,547		34,736			28,513	65,796	147,646	213,442
Run Size	167,250		169,797			204,533		233,046		380,692
Chinook										
Catch										
Nisga'a				5,457			4,998	10,455	1,309	11,764
Other Native		195						195		195
Sport		401		321				722	1,705	2,427
Commercial									843	843
Catch Total		596		5,778			4,998	11,372	3,857	15,229
Run Size	28,329		28,925			36,061		41,059		49,749
Coho										
Catch										
Nisga'a				9,206			4,652	13,858	848	14,706
Other Native		399						399		399
Sport		42		19			38	99	3,840	3,939
Commercial								-	8,267	8,267
Catch Total		441		9,225			4,690	14,356	12,955	27,311
Run Size	79,787		80,228			89,453		137,884		198,478

[1] Net Escapement=B(run size)-A(catch total).

[2] Other native catch is catch by the Gityanow First Nation (Steve Cox-Rogers, DFO, pers. com.) and sport catch is from the Tchitin, Cranberry, and Meziadin rivers (Baxter 2002).

[3] Run size estimates for sockeye, chinook and coho are from Tables 4, 5 and 4, respectively.

[4] Nisga'a catch estimates are from Baxter et al. (2002). Sport estimates are from Baxter 2002 for Seaskinnish and Tseax rivers.

[5] GW=Gitwinksihlkw. Run size (D)=B (run size)+C (catch total). Run size estimate for chinook includes a proportion of Tseax and Seaskinnish to net escapement estimate (i.e., net escapement *4.792%[historical average]=1358 chinook).

[6] Nisga'a catch estimates are from Baxter et. al (2002).

[7] Catch totals are the sum of all in-river harvests (A to E). Run size (F)=D (run size)+E (catch total). The run size estimate for coho includes an additional 43,741 coho that were estimated to have spawned below GW. The 43,741 estimate is based on a model of carrying capacity (prorated) based on estimates at Zolzap, Diskangieq, Ansedegan, and Ginlulak creeks (Baxter and Bocking 2003; JTC 2002).

[8] Nisga'a catch estimates are from Baxter et al. (2002) and represent Kincolith harvests. Sport and commercial catch estimates were provided by DFO (Steve Cox-Rogers, DFO-Prince Rupert, pers. comm.).

[9] Catch totals= Area F+Area G. Run size (H)=F(run size)+G(catch total)+coastal escapement estimates. The estimates of coastal escapement for chinook and coho were 4,833 chinook and 47,639 coho. The coastal escapement estimate for chinook was calculated by expanding the Kincolith fence count of chinook (1225) by the historical proportion (0.25349) of coastal stocks to Kincolith in Area 3. The coastal escapement estimate for coho was calculated by a model of carrying capacity (prorated based on Lizard and Salmon Cove streams; JTC 2002).

Table 12. Comparison of stock composition estimates for Nass River sockeye salmon (percent Meziadin) from scale, genetic and tagging methods, 1986-2001.

	Percent Meziadin				Differences		
		Genetic					
Year	[a] Scale	GSI	DNA	[b] Tag	Scale-Genetic	Scale-Tag	Genetic-Tag
1986	61.6	63.5			-1.9		
1987	78.2	57.1			21.0		
1988	85.5	58.5			27.0		
1989	44.5	41.2			3.3		
1990	77.8	71.5			6.3		
1991	92.6	79.9			12.8		
1992	93.3	86.3		81.0	7.0	12.3	5.3
1993	86.5	76.6		73.1	9.9	13.4	3.5
1994	91.2	na		59.0	na	32.2	na
[c] 1995	86.2	83.0		76.4	3.2	9.8	6.6
[d] 1996	60.9	na	73.0	78.3	-12.1	-17.4	-5.3
1997	65.2	na		59.5	na	5.7	na
[e] 1998	88.6	na		61.5	na	27.0	na
[f] 1999	98.3	na	82.9	85.5	15.4	12.8	-2.6
[g] 2000	81.2	na	65.4	65.3	15.9	15.9	0.1
[h] 2001	na	na	68.4	67.2	na	na	1.2
Averages:							
Years 92-01	83.5	82.0	72.4	70.7	6.5	12.4	1.3
All years	79.4	68.6	72.4	70.7	9.0	12.4	1.3

[a] Proportion of Meziadin adult sockeye count to scale net escapement estimate (Jantz, DFO, pers. comm.)

[b] Proportion of estimated Meziadin adult sockeye to estimate of escapement at Gitwinksihlkw
(For 2002: Mez. adult count expanded by harvest rate above Gitwinksihlkw (18.2%))

[c] GSI method in 1995 includes only 5 late weeks of the run (50% of escapement), the estimate is likely biased high from the season-total percent Meziadin because first sampling week (adjacent to the bulk of the escapement) was only 68% Meziadin whereas late run weeks were composed of 95-100% Meziadin. This pattern suggests that the early-run component was less than the late-run average of 83%.

[d] The microsatellite DNA estimate is the proportion of Meziadin sockeye from the 1996 Nass test fishery (Beecham and Wood 1999).

[e] The 1998 Meziadin scale estimate is based on circuli counts only.

[f] The 1999 scale estimate does not include Damdochax or Fred-Wright sockeye rivers.
The microsatellite DNA estimate is the proportion of Meziadin sockeye from the 1999 Nass fishwheel DNA samples (n=279; Chris Wood, DFO - Nanaimo, pers. com.).

[g] The microsatellite DNA estimate is the proportion of Meziadin sockeye from the 2000 Nass fishwheel DNA samples (n=560; Terry Beacham, DFO - Nanaimo, pers. com.).

[h] The microsatellite DNA estimate is the proportion of Meziadin sockeye from the 2001 Nass fishwheel DNA samples (n=1486; Terry Beacham, DFO - Nanaimo, pers. com.).

FIGURES

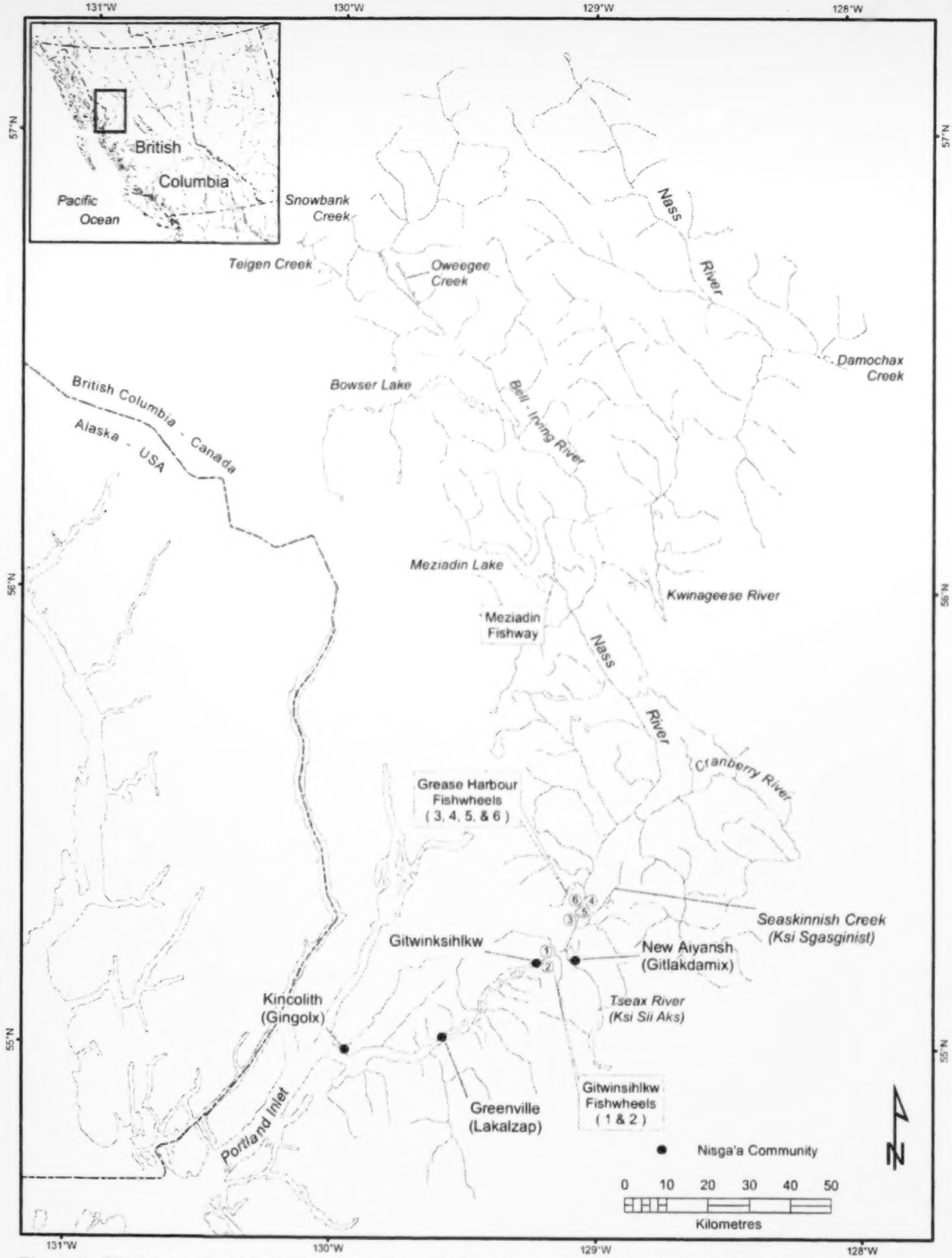

131°W
130°W
129°W
128°W
57°N
56°N
55°N
British Columbia
Pacific Ocean
Snowbank Creek
Teigen Creek
Oweegee Creek
Nass River
Damochax Creek
Bowser Lake
Bell - Irving River
British Columbia - Canada
Alaska - USA
Meziadin Lake
Kwinageese River
Meziadin Fishway
Cranberry River
Grease Harbour Fishwheels (3, 4, 5, & 6)
Seaskinnish Creek (Ksi Sgasginist)
Gitwinksihlkw
New Aiyansh (Gitlakdamix)
Tseax River (Ksi Sii Aks)
Kincolith (Gingolx)
Greenville (Lakalzap)
Gitwinsihlkw Fishwheels (1 & 2)
Portland Inlet
Nisga'a Community
0 10 20 30 40 50
Kilometres
N

Figure 1. The Nass watershed showing locations of the fishwheels, the Meziadin fishway and chinook spawning areas that were surveyed.

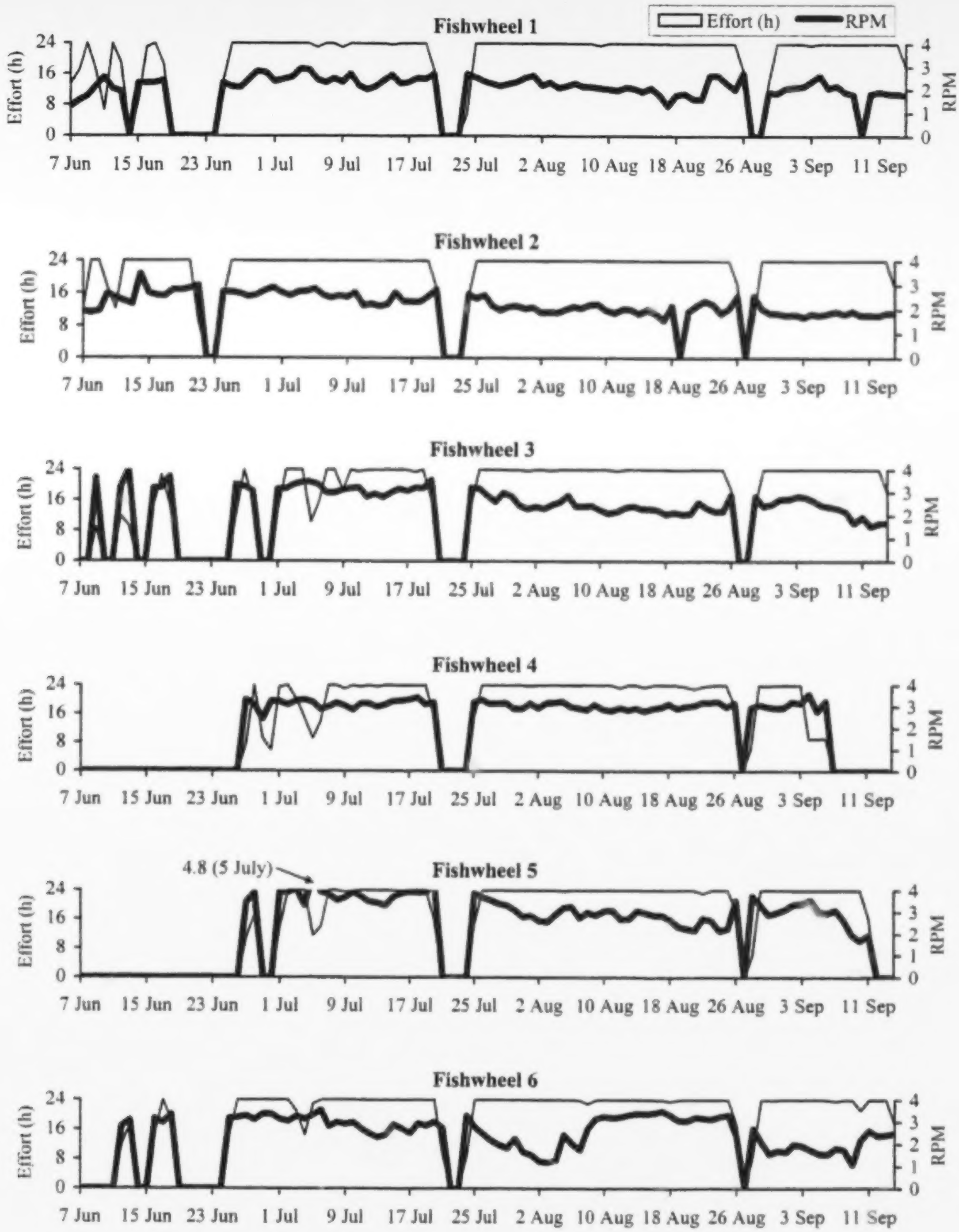


Figure 2. Fishwheel effort (hours) and speed (RPM) for six fishwheels on the Nass River, 7 June to 14 September 2001.

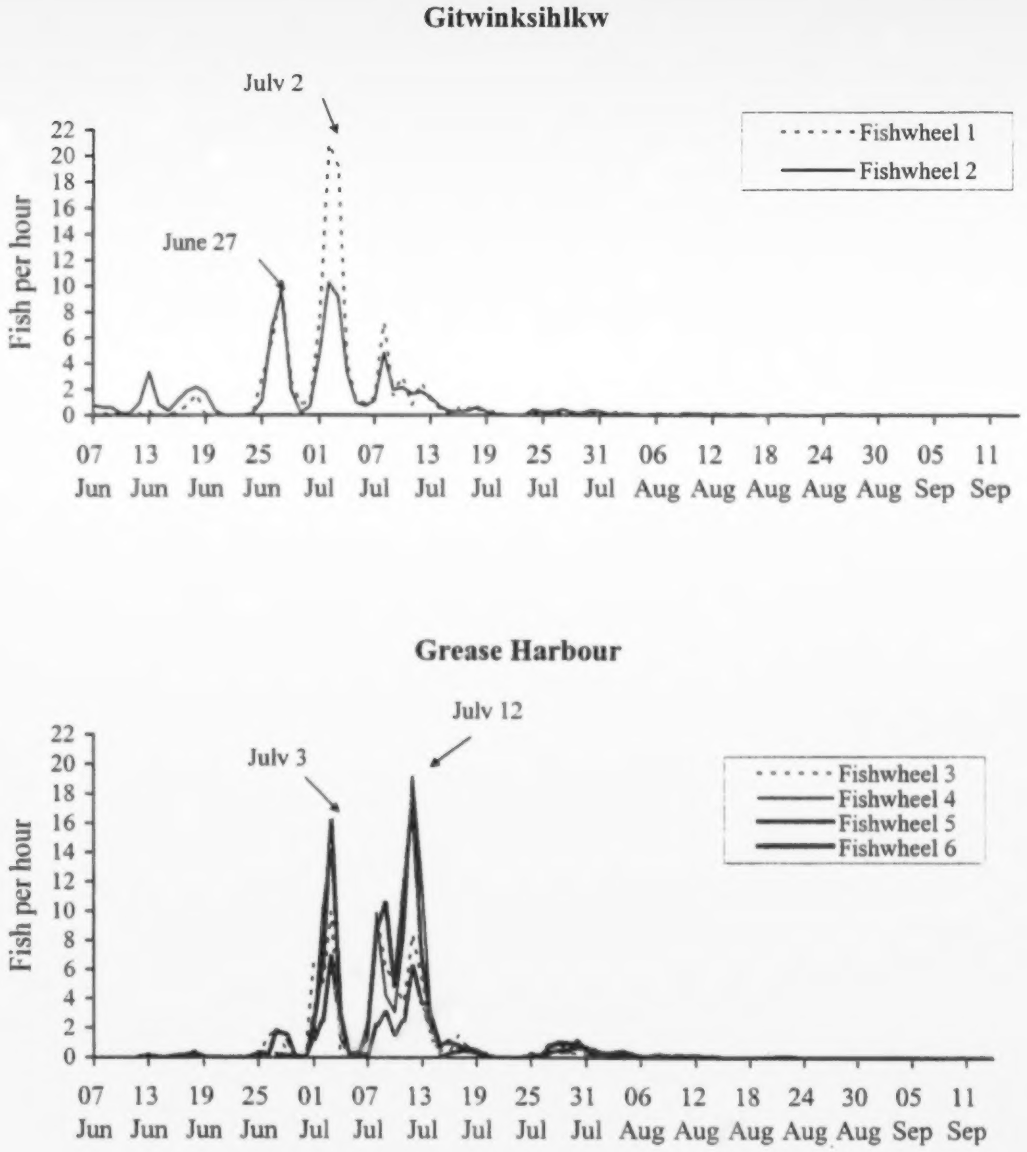
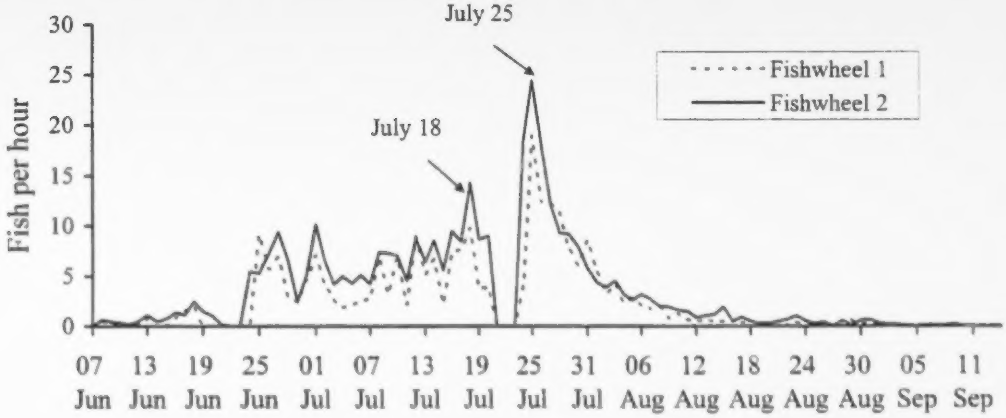


Figure 3. Fishwheel CPE (catch per wheel hour) for adult chinook captured with six fishwheels on the Nass River, 2001.

Gitwinksihlkw



Grease Harbour

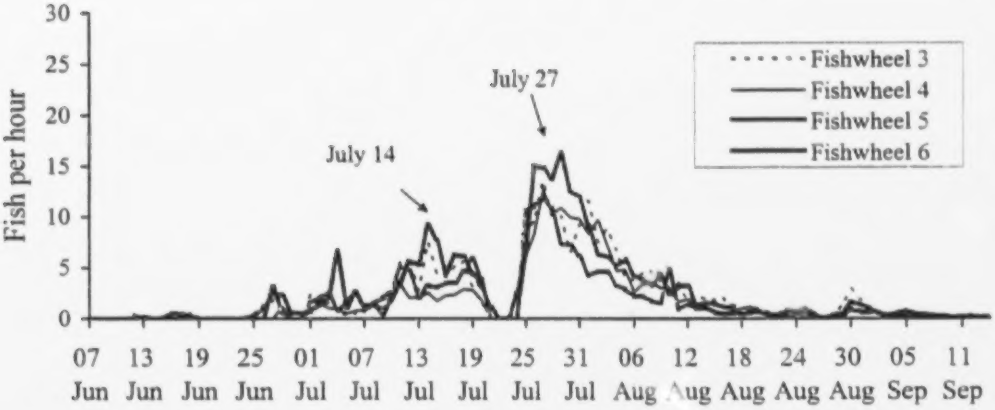


Figure 4. Fishwheel CPE (catch per wheel hour) for adult sockeye salmon captured with six fishwheels on the Nass River, 2001.

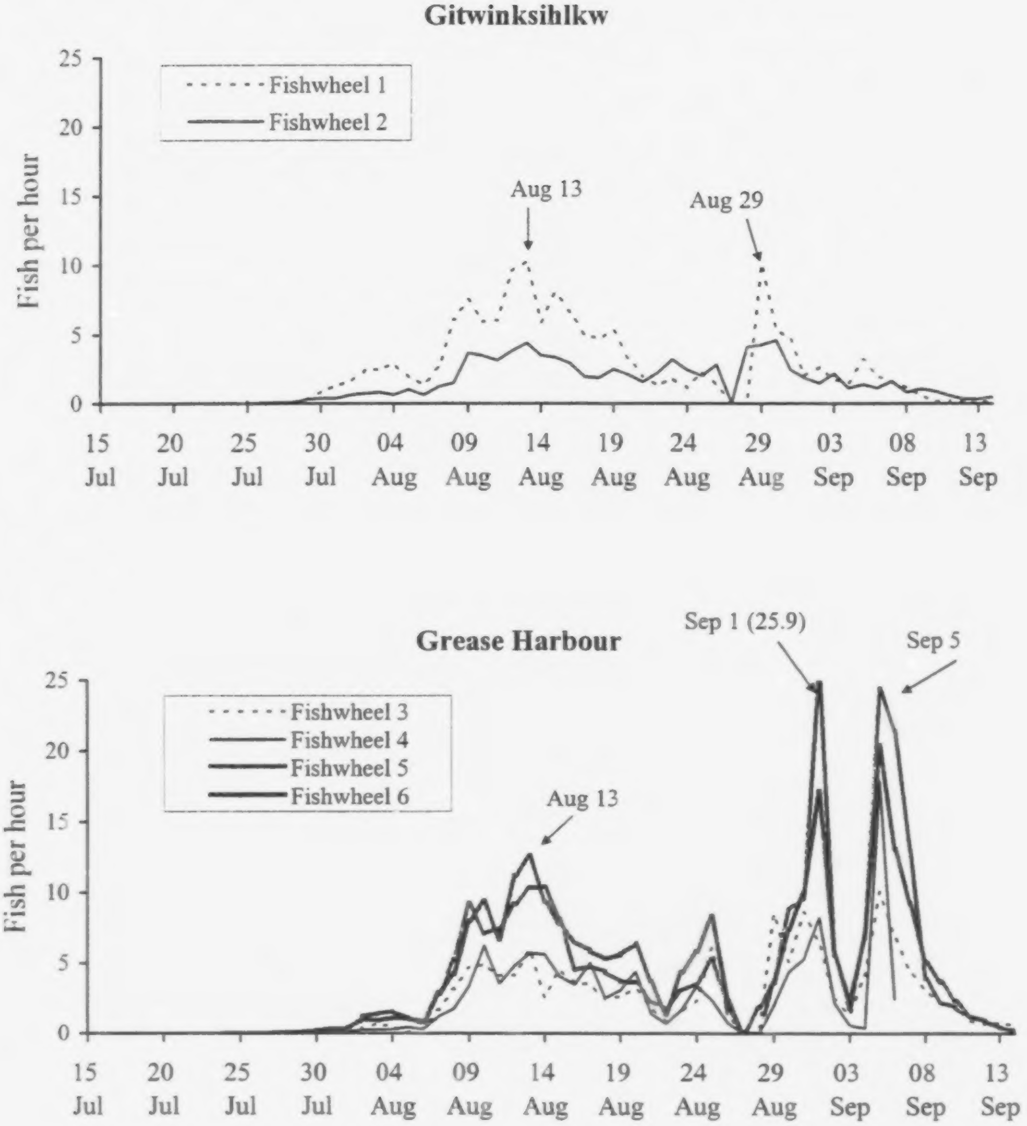


Figure 5. Fishwheel CPE (catch per wheel hour) for adult coho salmon captured with six fishwheels on the Nass River, 2001.

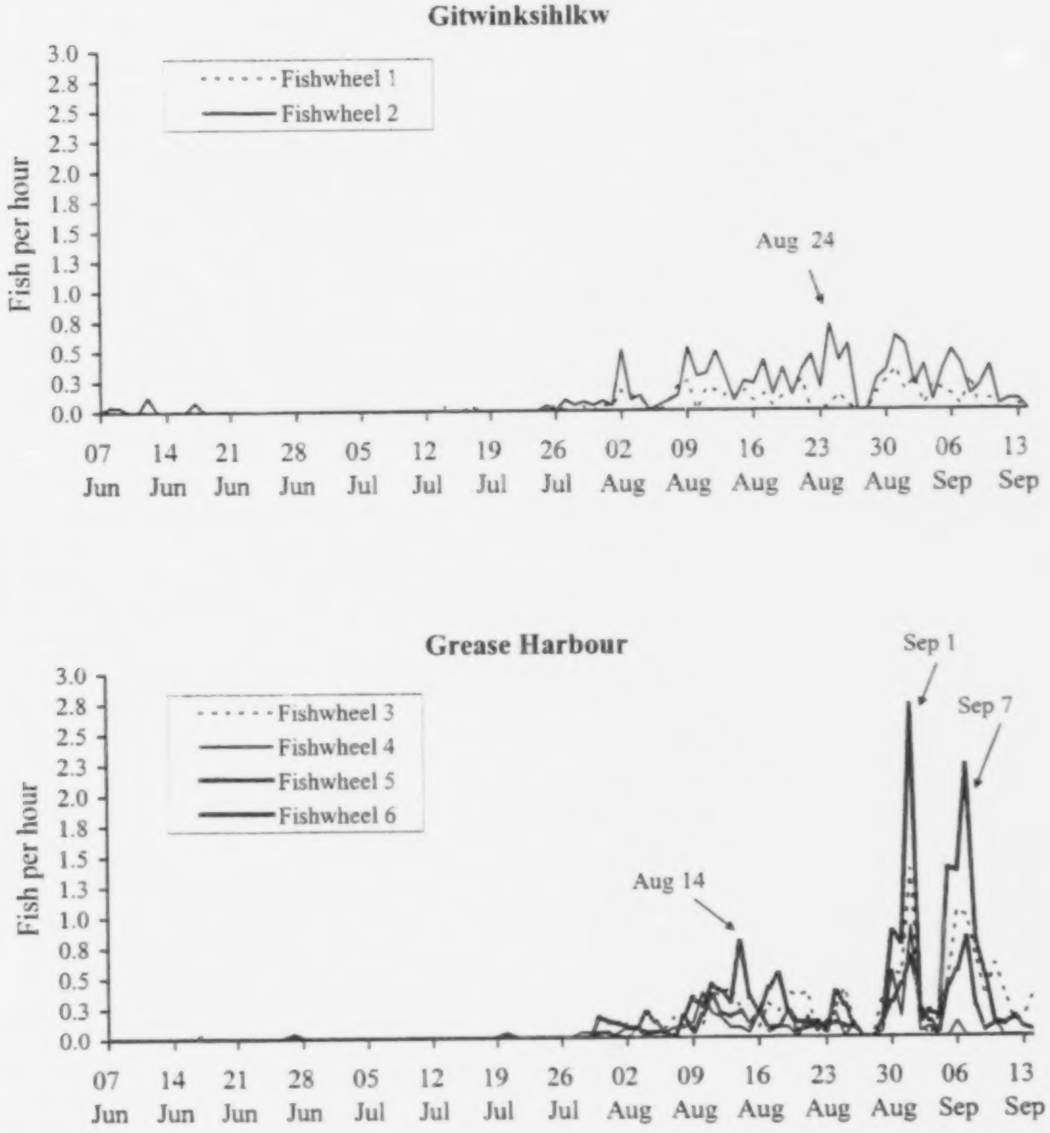
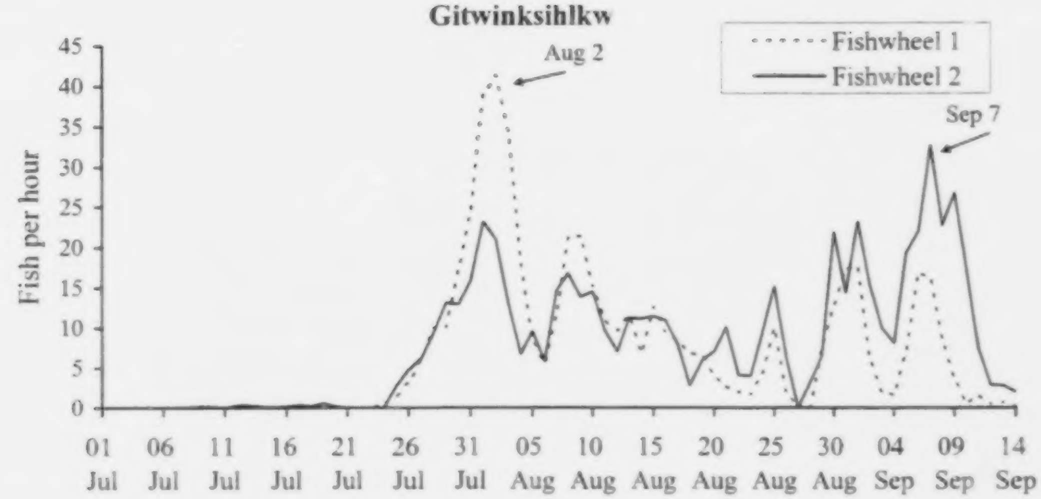


Figure 6. Fishwheel CPE (catch per wheel hour) for adult steelhead captured with six fishwheels on the Nass River, 2001.



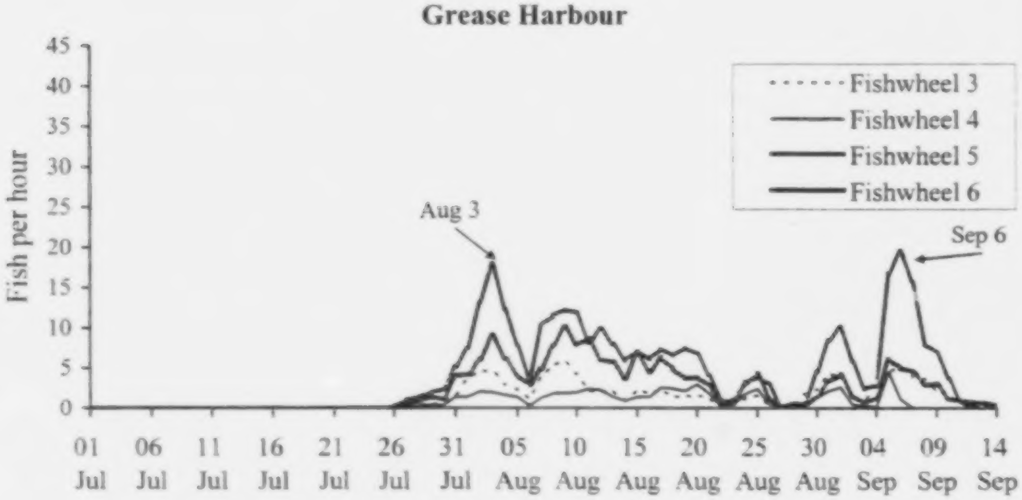
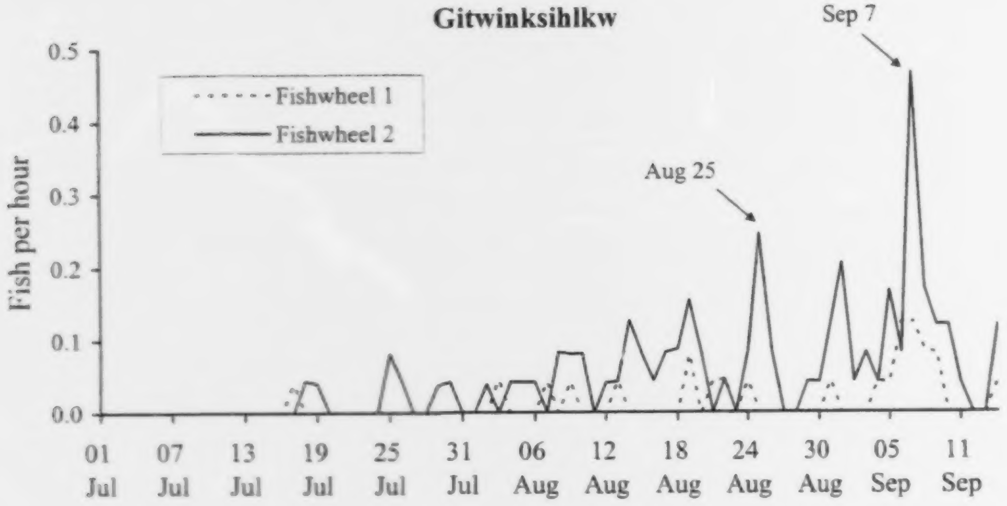


Figure 7. Fishwheel CPE (catch per wheel hour) for adult pink salmon captured with six fishwheels on the Nass River, 2001.



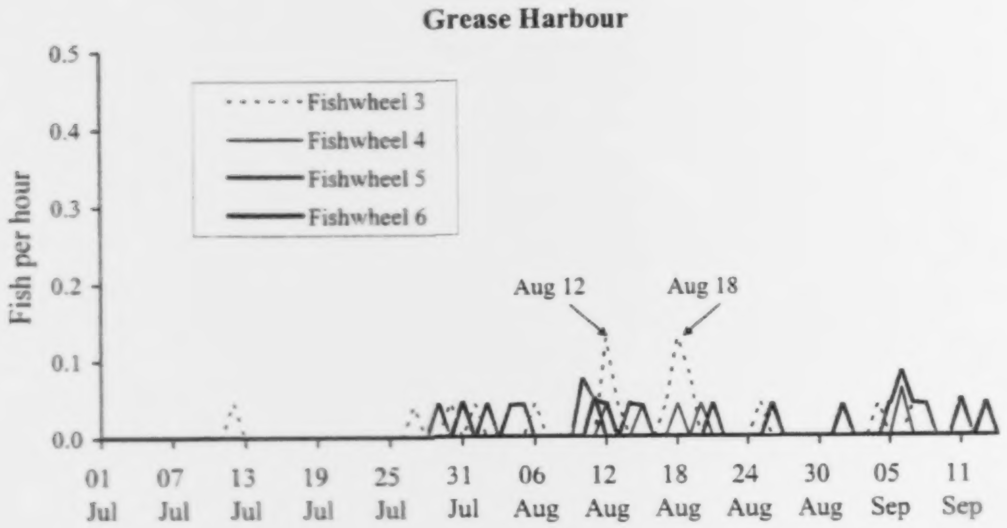


Figure 8. Fishwheel CPE (catch per wheel hour) for adult chum salmon captured with six fishwheels on the Nass River, 2001.

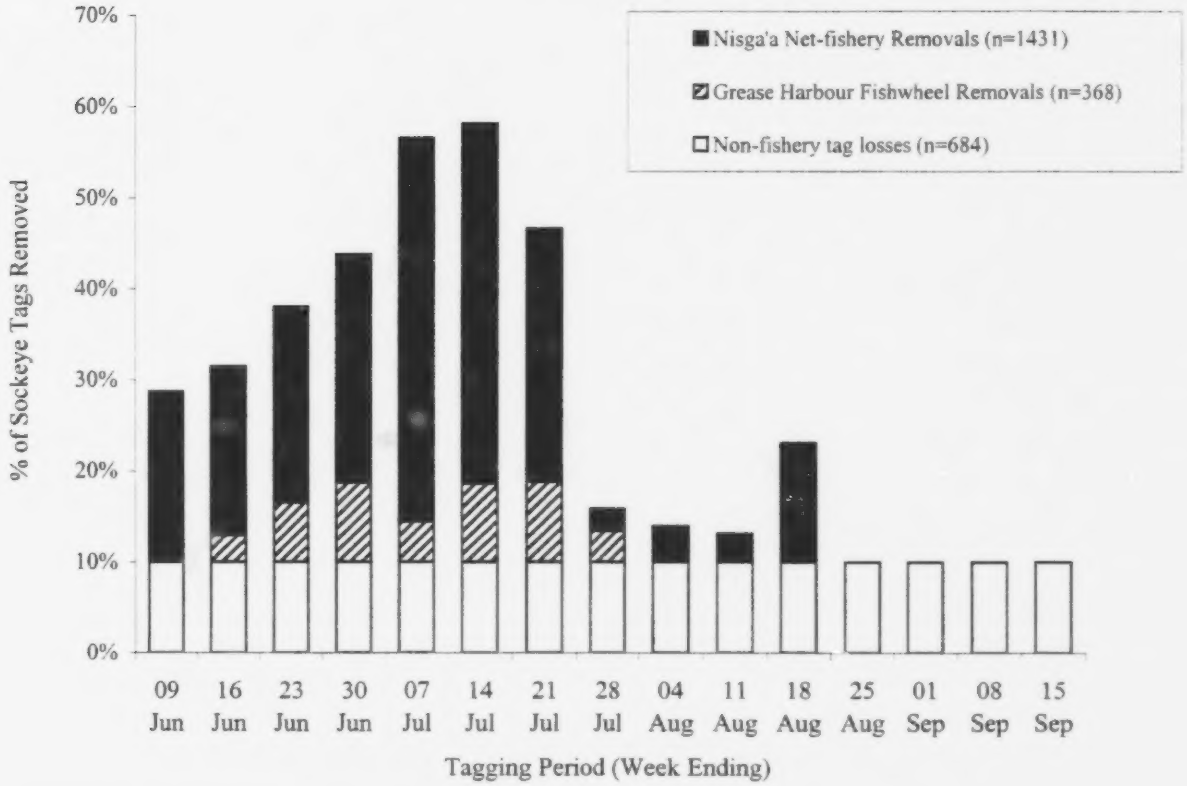
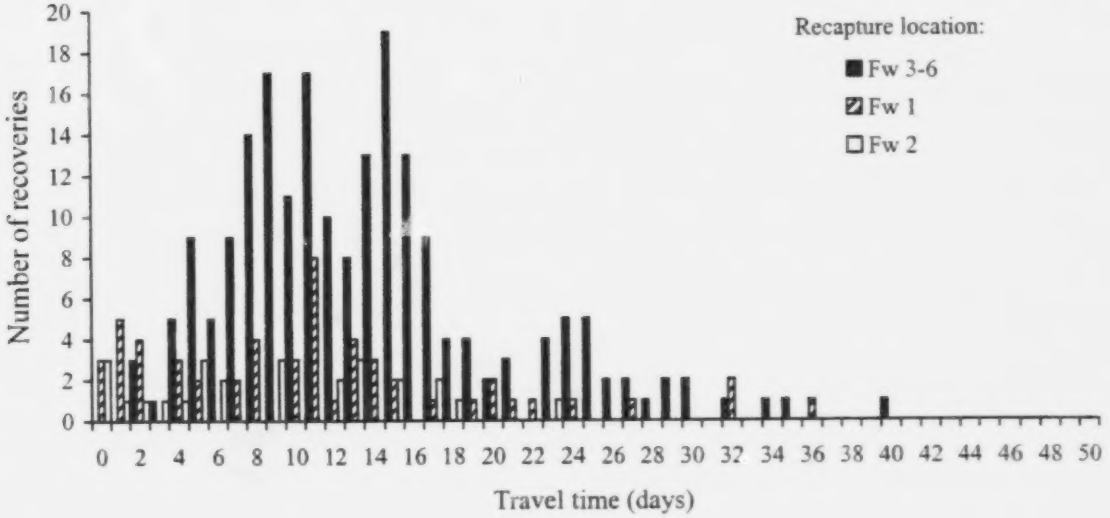


Figure 9. The proportion of sockeye tags removed by tagging period in Nisga'a net fisheries, Grease Harbour fishwheels, and non-fishery tag losses, 2001.

Chinook tagged at fishwheel 1



Chinook tagged at fishwheel 2

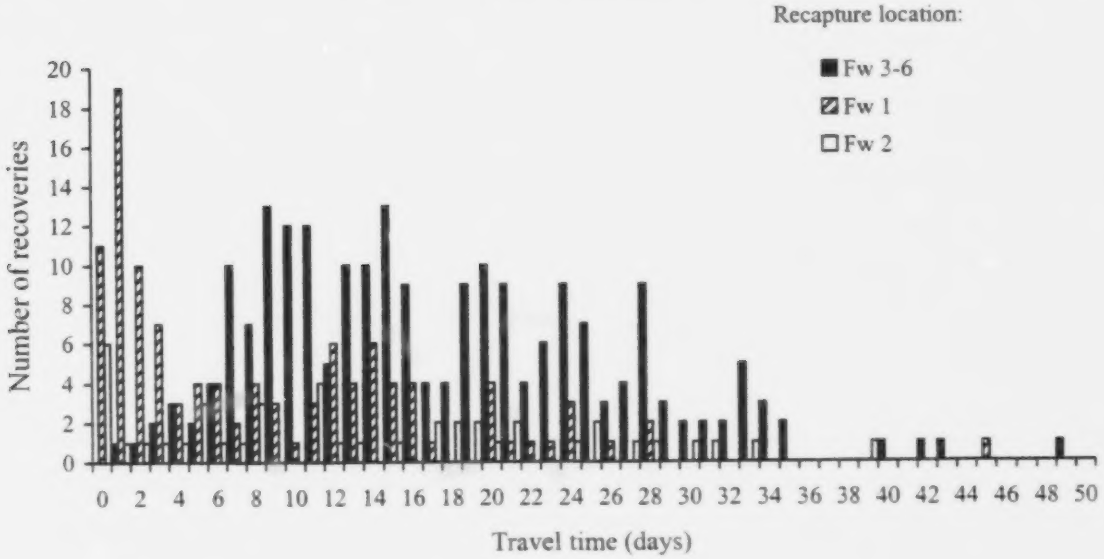
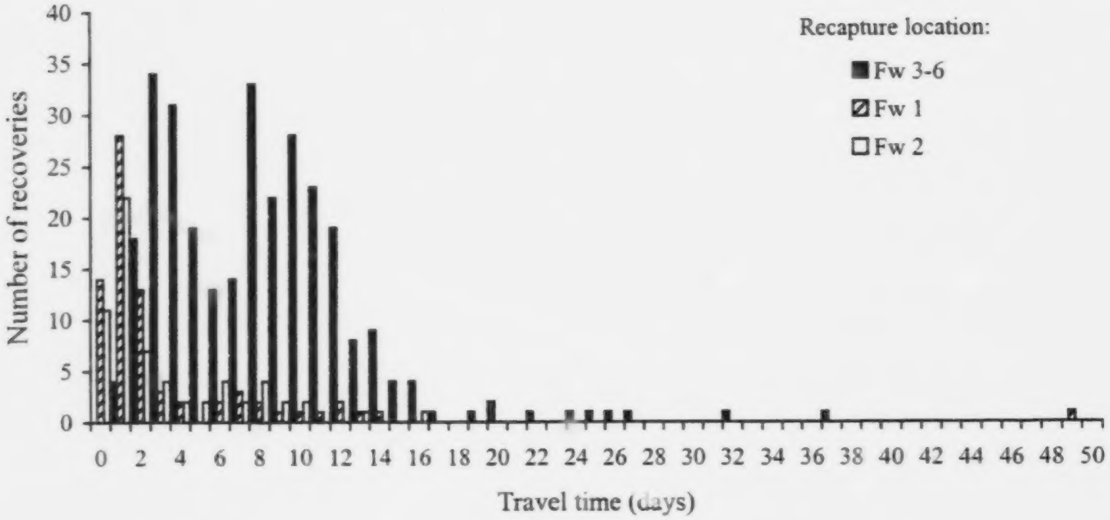


Figure 10. Time between release and recapture for chinook salmon tagged at fishwheels 1 and 2 and subsequently recaptured in each of the six fishwheels, 2001. Fishwheel 3, 4, 5 and 6 were pooled for clarity.

Sockeye tagged at fishwheel 1



Sockeye tagged at fishwheel 2

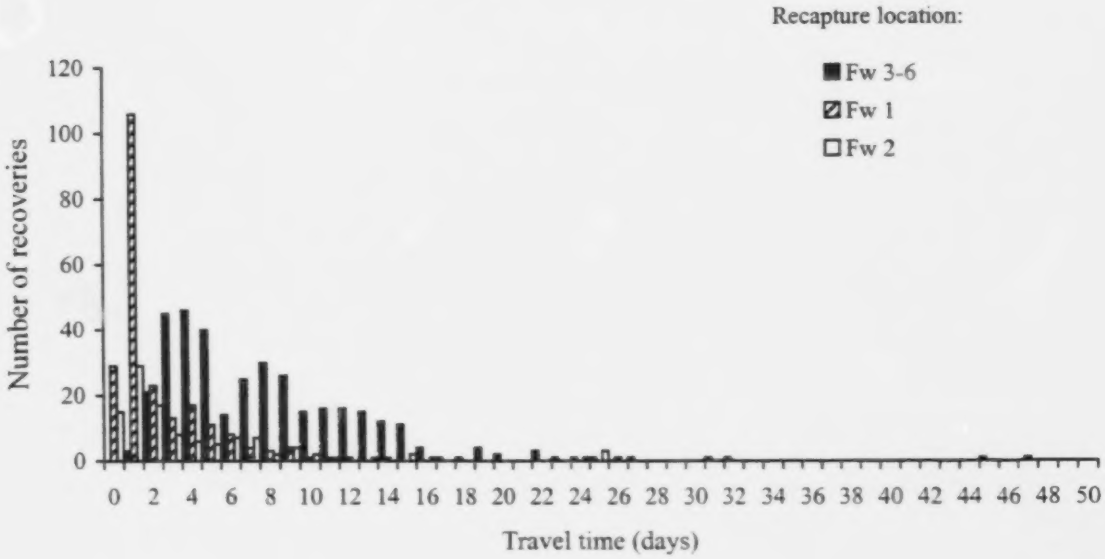
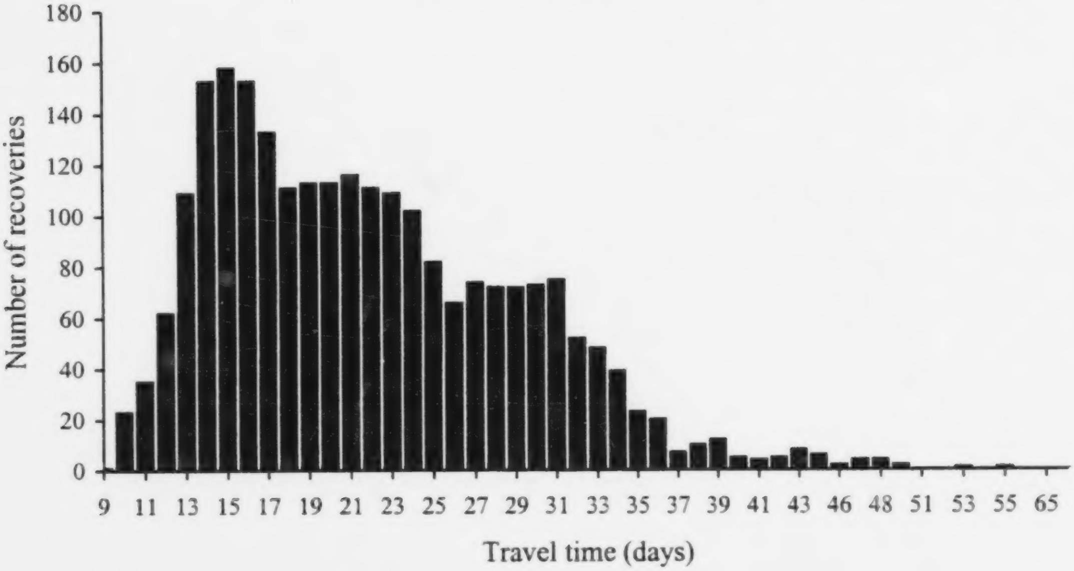


Figure 11. Time between release and recapture for sockeye salmon tagged at fishwheels 1 and 2 and subsequently recaptured in each of the six fishwheels, 2001. Fishwheel 3, 4, 5 and 6 were pooled for clarity.

a) All sockeye tag recoveries at the Meziadin fishway



b) Mean travel time by period

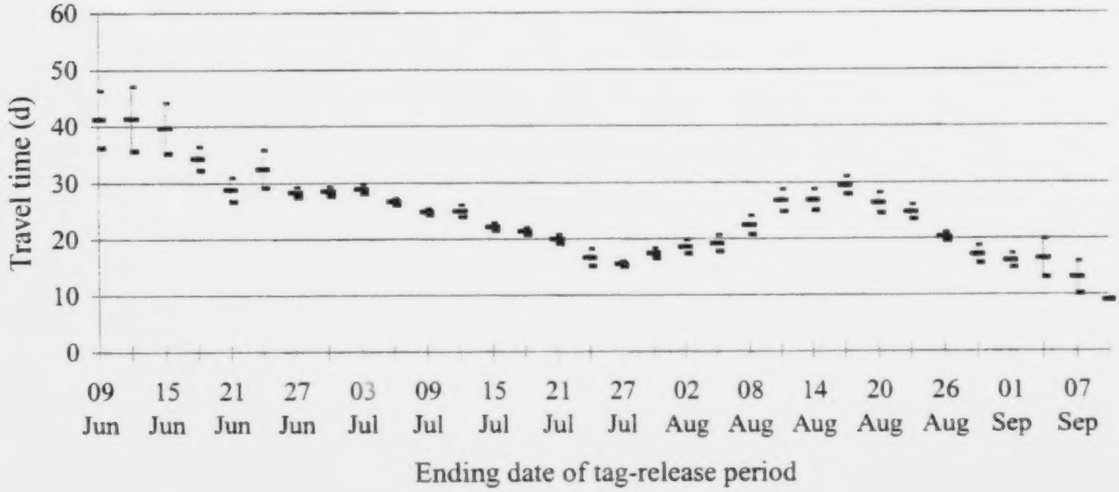
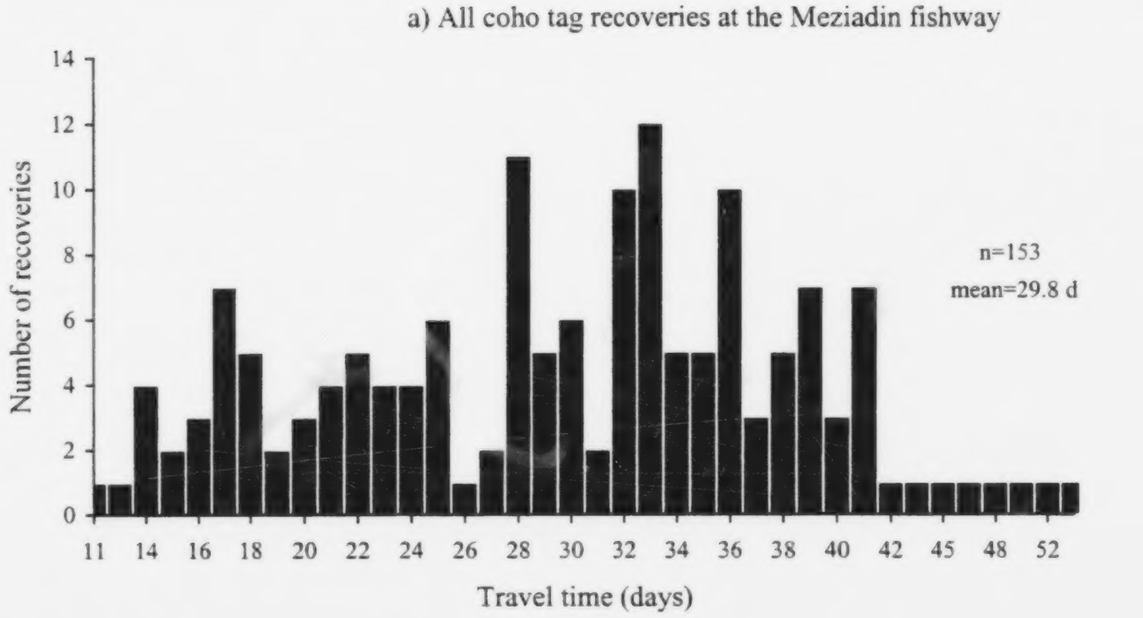


Figure 12. a) The distribution of travel times (days) to the Meziadin fishway for sockeye salmon tagged at the Nass River fishwheels and recovered at the Meziadin fishway, 2001. b) Mean travel time (with 95% confidence intervals) for 3-day release periods.



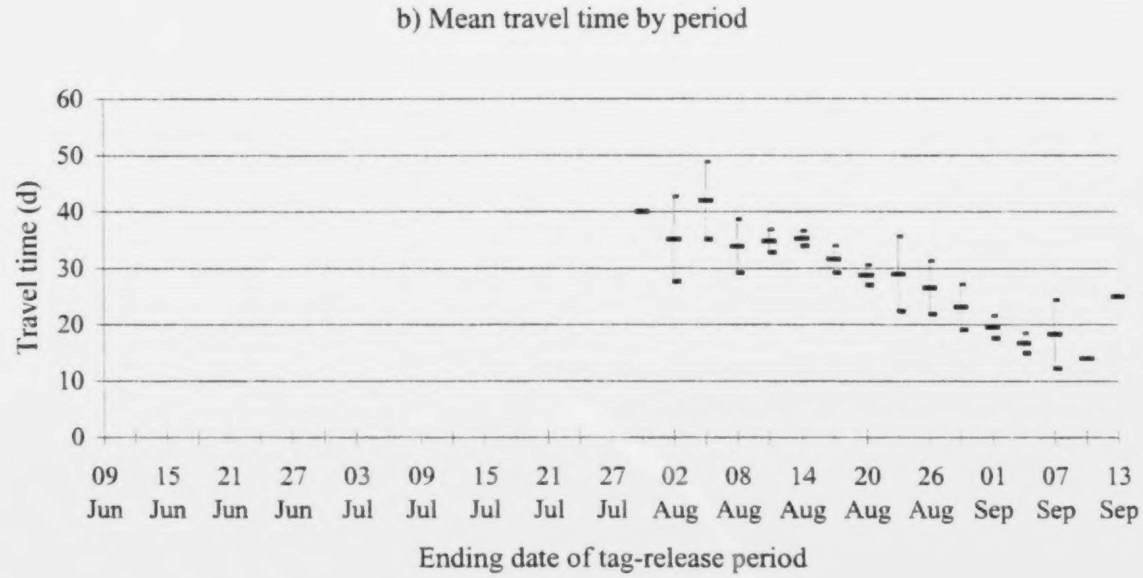


Figure 13. a) The distribution of travel times (days) to the Meziadin fishway for coho salmon tagged at the Nass River fishwheels and recovered at the Meziadin fishway, 2001.
b) Mean travel time (with 95% confidence intervals) for 3-day release periods.

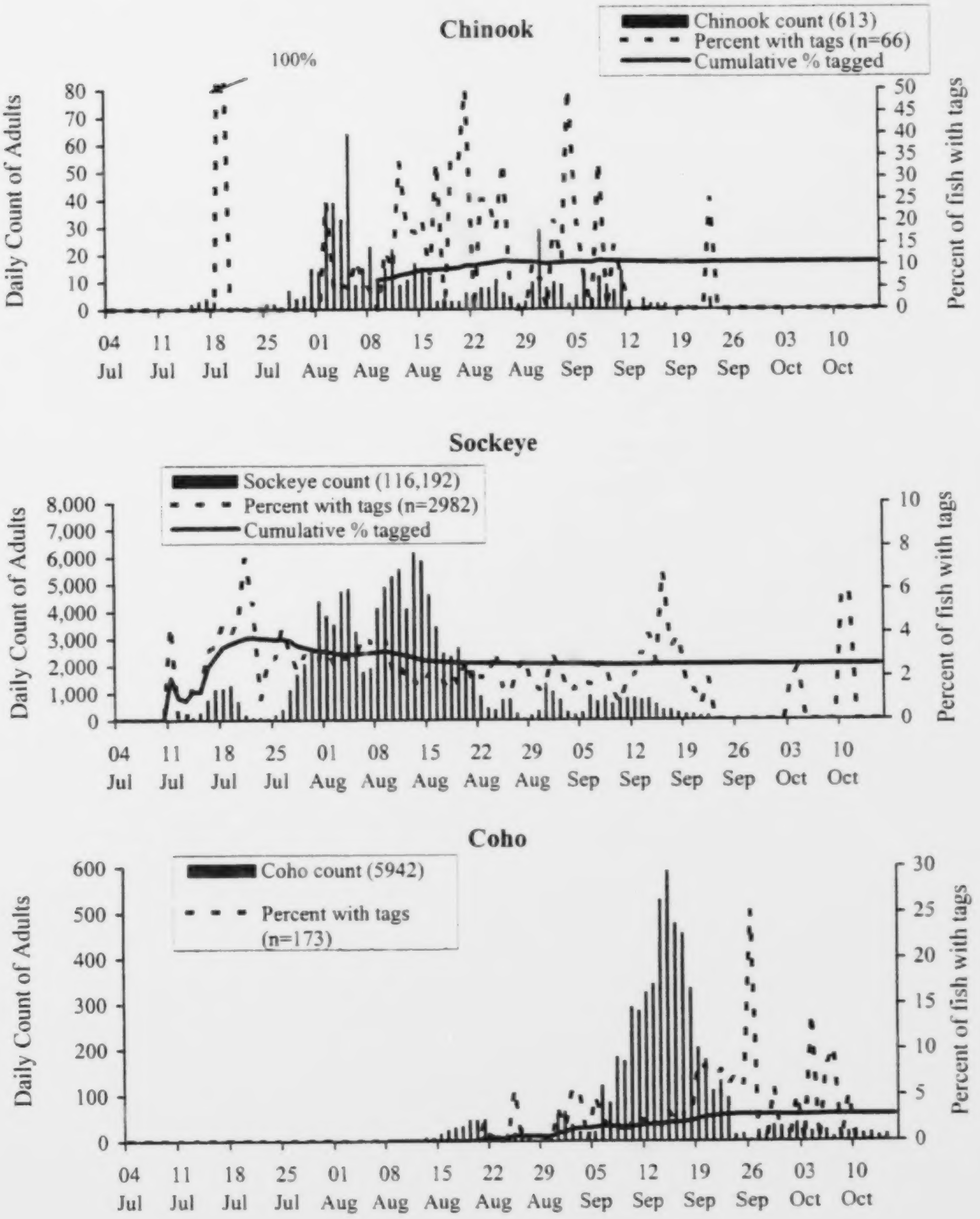


Figure 14. Daily counts and percent of fish with tags for chinook, sockeye and coho salmon passing through the Meziadin fishway, 4 July to 15 October 2001.

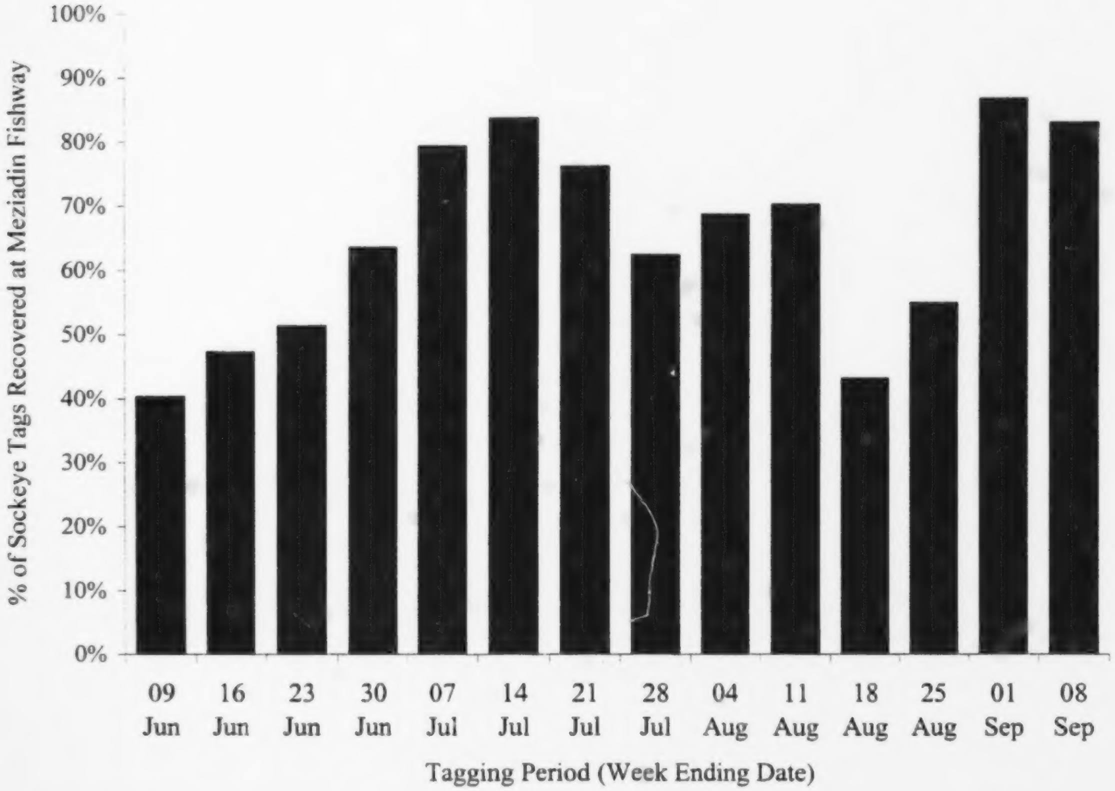
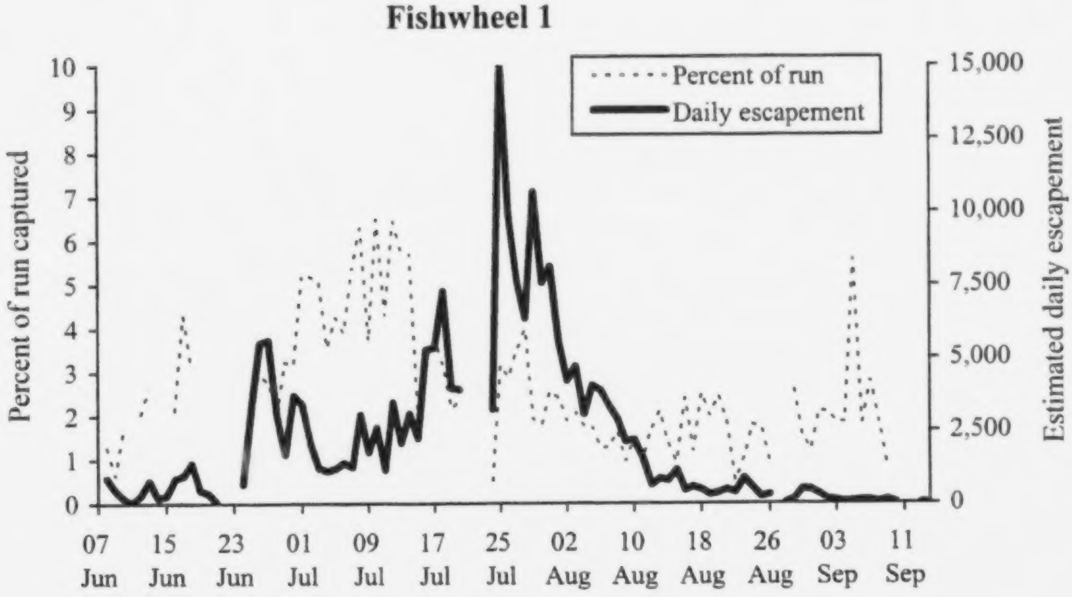


Figure 15. The proportion of sockeye tags, after removals, that were recovered at the Meziadin Fishway by tagging period, 2001.



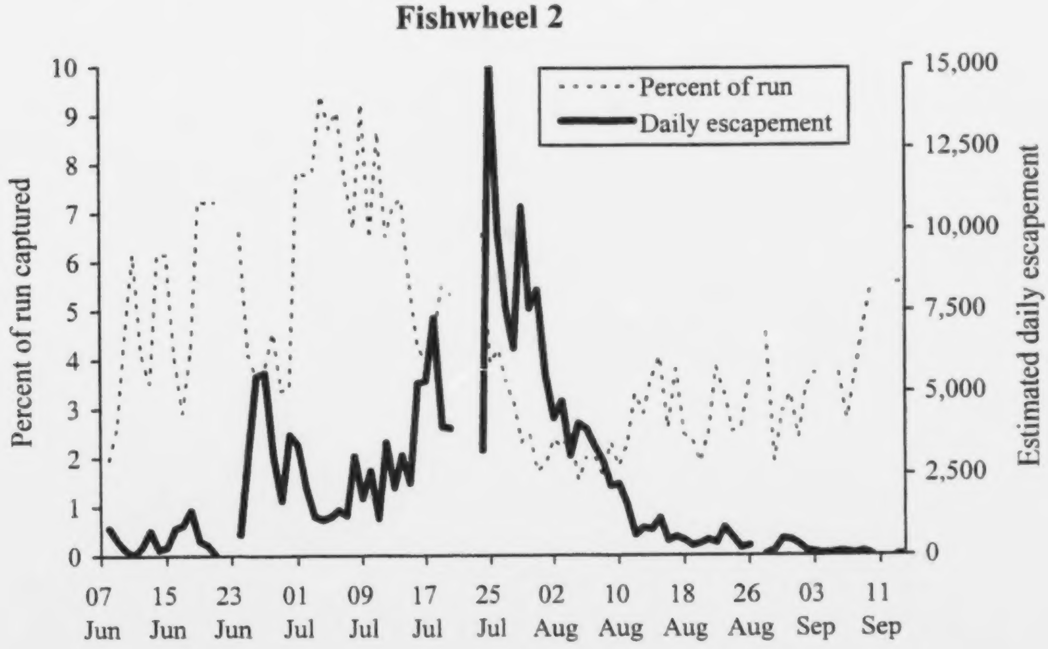
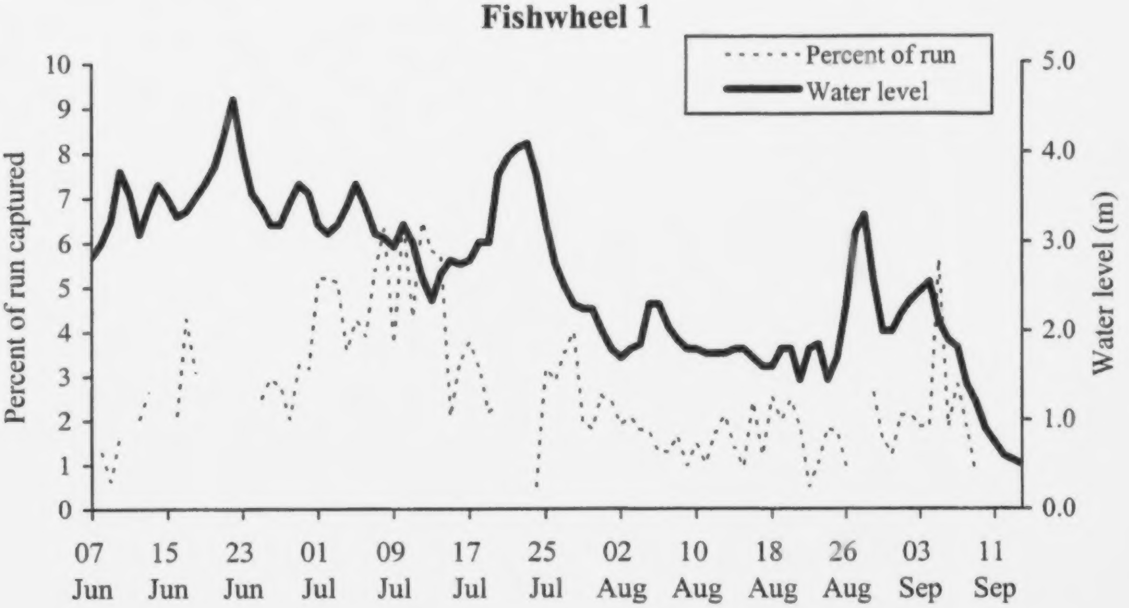


Figure 16. Percent of the sockeye salmon run captured by fishwheels 1 and 2 versus estimated daily escapement, 2001.



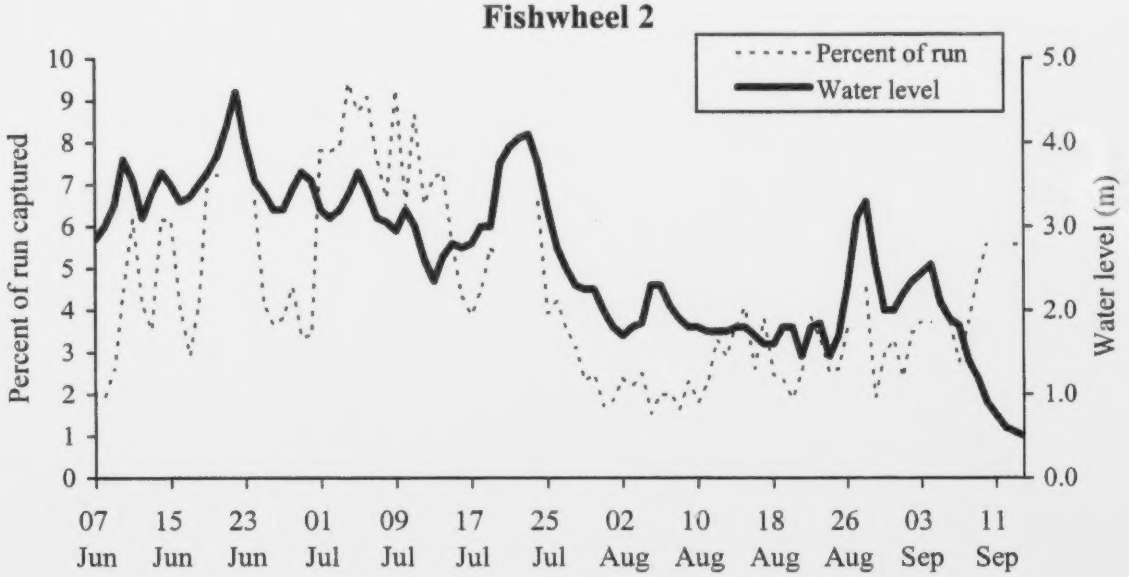
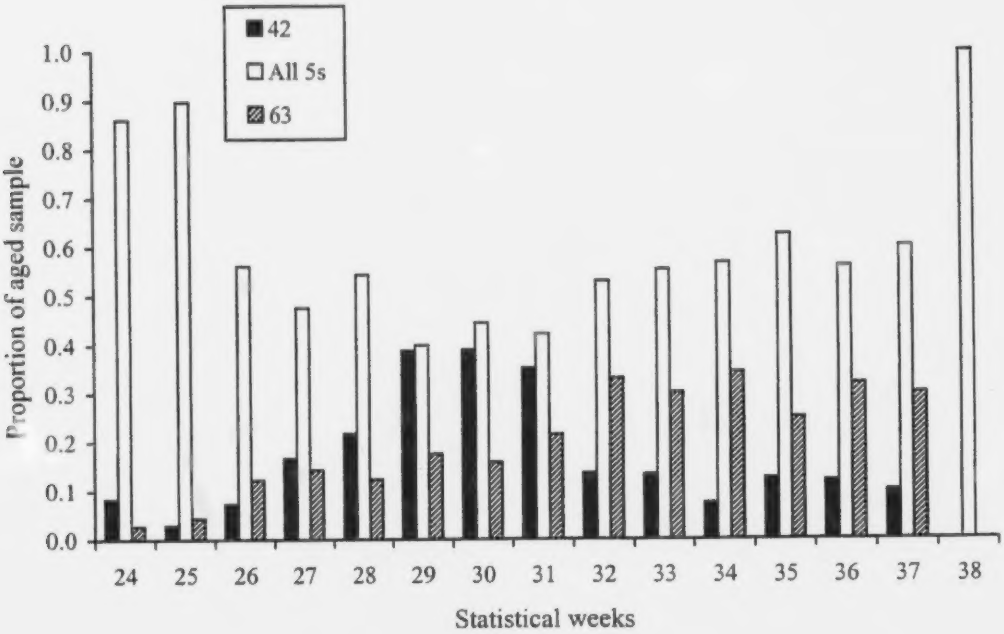


Figure 17. Percent of the sockeye salmon run captured by fishwheels 1 and 2 versus level of the Nass River at Gitwinksihlkw, 2001.



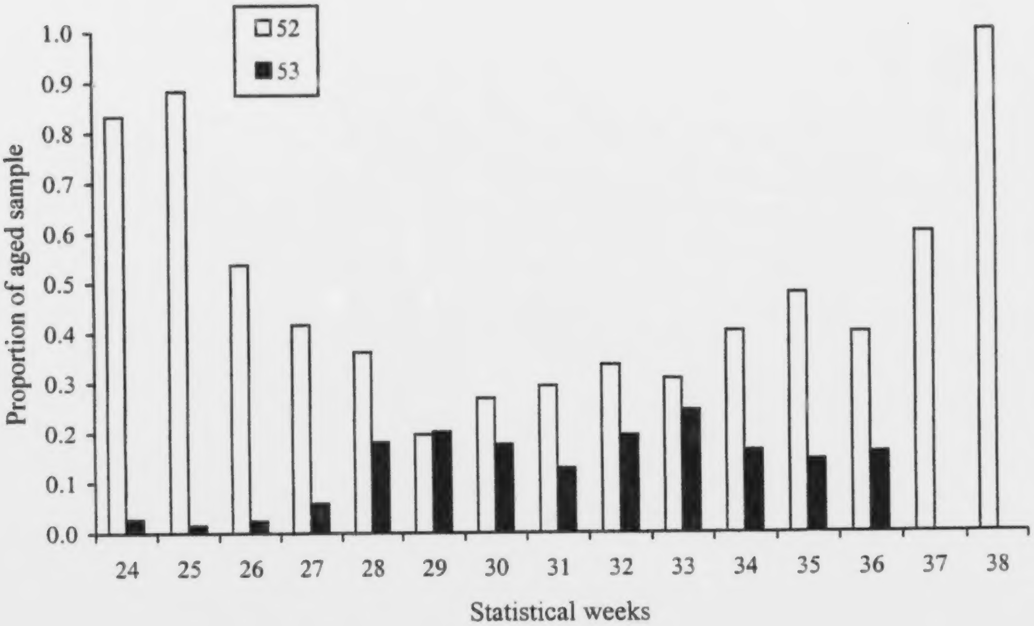


Figure 18. Weekly age composition of successfully aged sockeye salmon sampled from the Nass River fishwheel catch, 2001 (most common ages only, top: the aged-five fish were pooled for clarity).

APPENDIX A

Water temperature/level data and fishwheel effort, 2001

Table A-1. Water level and temperature collected in the Nass River near Gitwinksihlkw, 7 June to 14 September 2001.

Date	Depth (m)	Temp. (^{o}C)	Date	Depth (m)	Temp. (^{o}C)	Date	Depth (m)	Temp. (^{o}C)
07-Jun	2.9	4.0	18-Jul	3.0	6.0	28-Aug	3.3	7.0
08-Jun	3.0	3.5	19-Jul	3.0	6.0	29-Aug	2.6	7.0
09-Jun	3.3	2.5	20-Jul	3.8	7.0	30-Aug	2.0	6.5
10-Jun	3.8	2.0	21-Jul	4.0	7.0	31-Aug	2.0	7.0
11-Jun	3.6	3.0	22-Jul	4.1		01-Sep	2.2	7.0
12-Jun	3.1	4.0	23-Jul	4.1		02-Sep	2.4	7.0
13-Jun	3.4	4.0	24-Jul	3.8	8.0	03-Sep	2.5	5.0
14-Jun	3.7	4.0	25-Jul	3.2	7.0	04-Sep	2.6	5.5
15-Jun	3.5	4.0	26-Jul	2.8	7.0	05-Sep	2.1	6.0
16-Jun	3.3	4.0	27-Jul	2.5	7.0	06-Sep	1.9	5.5
17-Jun	3.4	4.0	28-Jul	2.3	7.0	07-Sep	1.8	5.0
18-Jun	3.5	4.0	29-Jul	2.3	6.0	08-Sep	1.4	5.0
19-Jun	3.7	5.0	30-Jul	2.3	7.0	09-Sep	1.2	5.0
20-Jun	3.9	4.0	31-Jul	2.0	6.0	10-Sep	0.9	6.0
21-Jun	4.2	4.0	01-Aug	1.8	6.0	11-Sep	0.8	5.0
22-Jun	4.6	4.0	02-Aug	1.7	7.0	12-Sep	0.6	5.0
23-Jun	4.0		03-Aug	1.8	8.0	13-Sep	0.6	5.0
24-Jun	3.6	4.0	04-Aug	1.9	7.0	14-Sep	0.5	6.0
25-Jun	3.4	4.0	05-Aug	2.3	7.0			
26-Jun	3.2	4.0	06-Aug	2.3	7.0			
27-Jun	3.2	5.0	07-Aug	2.1	7.0			
28-Jun	3.5	4.0	08-Aug	1.9	7.0			
29-Jun	3.7	4.0	09-Aug	1.8	7.0			
30-Jun	3.6	5.0	10-Aug	1.8	8.5			
01-Jul	3.2	5.0	11-Aug	1.8				
02-Jul	3.1	5.0	12-Aug	1.8	8.0			
03-Jul	3.2	5.0	13-Aug	1.8	8.0			
04-Jul	3.4	5.0	14-Aug	1.8				
05-Jul	3.7	5.0	15-Aug	1.8	8.0			
06-Jul	3.4	5.0	16-Aug	1.7	9.0			
07-Jul	3.1	5.0	17-Aug	1.6	9.0			
08-Jul	3.1	5.0	18-Aug	1.6	8.5			
09-Jul	3.0	5.0	19-Aug	1.8				
10-Jul	3.2	5.0	20-Aug	1.8	8.0			
11-Jul	3.0	5.0	21-Aug	1.5	8.0			
12-Jul	2.6	5.0	22-Aug	1.8	8.0			
13-Jul	2.4	5.0	23-Aug	1.9	8.0			
14-Jul	2.7	5.0	24-Aug	1.5	8.0			
15-Jul	2.8	5.0	25-Aug	1.7	7.0			
16-Jul	2.8	5.0	26-Aug	2.3				
17-Jul	2.8	6.0	27-Aug	3.1				

Mean:	2.6	5.8
Median:	2.6	5.3
Max:	4.6	9.0
Min:	0.5	2.0

Table A-2. Summary of daily fishwheel effort (hours), effort used to calculated CPE (hours) and fishwheel speed (RPM) for six fishwheels operated on the Nass River, 2001.

	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Fishwheel 5			Fishwheel 6		
Date	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM
07-Jun	13.5	5.1	1.3	12.2	3.8	1.9												
08-Jun	17.0	18.1	1.5	24.0	25.6	1.9												
09-Jun	24.0	25.5	1.7	24.0	25.3	1.9	9.0	9.0	3.6									
10-Jun	17.1	22.9	2.1	17.6	22.9	2.6												
11-Jun	6.8	0.3	2.5	12.2	5.9	2.5												
12-Jun	24.0	23.3	2.0	24.0	24.3	2.3	11.8	2.0	3.2							11.7	4.7	2.8
13-Jun	19.0	24.8	1.9	24.0	24.7	2.2	9.3	19.1	4.0							17.3	24.3	3.1
14-Jun				24.0	24.7	3.5												
15-Jun	8.7	2.5	2.3	24.0	22.3	2.7												
16-Jun	23.0	21.4	2.3	24.0	24.8	2.6	14.7	9.0	3.2							15.0	9.1	3.2
17-Jun	24.0	28.2	2.3	24.0	25.1	2.6	22.5	25.2	3.2							24.0	23.0	3.0
18-Jun	18.6	21.4	2.4	24.0	23.3	2.8	14.8	18.1	3.7							18.5	25.3	3.4
19-Jun				24.0	23.0	2.8												
20-Jun				24.0	24.0	2.9												
21-Jun				9.3	15.6	3.0												
22-Jun																		
23-Jun																		
24-Jun				11.5	8.1	2.7												
25-Jun	14.1	8.8	2.3	24.0	24.6	2.7										14.8	8.9	3.2
26-Jun	24.0	28.1	2.1	24.0	27.7	2.7	12.5	5.2	3.4							24.0	23.0	3.2
27-Jun	24.0	22.6	2.1	24.0	22.9	2.5	24.0	25.7	3.3	7.3		3.3	11.1	4.4	3.4	24.0	24.6	3.3
28-Jun	24.0	21.0	2.5	24.0	21.1	2.6	16.2	21.8	3.1	24.0	23.8	3.1	17.0	23.7	3.9	24.0	23.6	3.1
29-Jun	24.0	23.0	2.8	24.0	23.3	2.8				9.3	16.8	2.4				24.0	24.8	3.4
30-Jun	24.0	25.3	2.7	24.0	24.8	2.9				6.0	0.1	3.3				24.0	23.8	3.4
01-Jul	24.0	24.9	2.4	24.0	26.2	2.7	13.7	10.4	3.2	23.5	24.6	3.3	14.1	9.6	3.9	24.0	26.5	3.1
02-Jul	24.0	25.7	2.5	24.0	24.7	2.6	24.0	24.3	3.2	24.0	24.0	3.1	24.0	24.2	3.9	24.0	24.0	3.0
03-Jul	24.0	22.8	2.5	24.0	22.9	2.7	24.0	24.2	3.4	20.3	25.0	3.3	24.0	24.9	4.1	20.9	24.6	3.3
04-Jul	24.0	21.7	2.9	24.0	21.0	2.7	24.0	19.7	3.5	15.0	9.2	3.3	24.0	19.3	3.3	14.5	8.9	3.1
05-Jul	24.0	24.2	2.9	24.0	24.6	2.9	10.4	17.5	3.5	9.2	15.0	3.2	11.6	19.7	4.8	23.0	22.9	3.3
06-Jul	23.0	22.0	2.4	24.0	24.9	2.6	15.4	9.4	3.3	13.7	6.2	2.9	14.0	6.9	3.9	24.0	23.3	3.6

Page 1 of 4

Table A-2. Summary of daily fishwheel effort (hours), effort used to calculated CPE (hours) and fishwheel speed (RPM) for six fishwheels operated on the Nass River, 2001.

Date	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Fishwheel 5			Fishwheel 6		
	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM
07-Jul	24.0	24.2	2.3	24.0	22.5	2.5	24.0	27.0	3.0	24.0	23.6	3.0	24.0	23.6	3.8	24.0	23.7	2.8
08-Jul	24.0	27.9	2.5	24.0	27.6	2.6	24.0	25.1	3.0	24.0	26.0	3.2	24.0	27.2	3.5	24.0	25.6	3.0
09-Jul	23.0	20.4	2.3	24.0	22.3	2.5	18.6	17.1	3.1	23.0	24.2	3.1	23.5	23.4	3.7	24.0	25.1	2.9
10-Jul	24.0	24.5	2.7	24.0	24.0	2.7	24.0	24.1	3.2	24.0	23.9	2.9	23.9	24.1	3.9	24.0	24.4	3.0
11-Jul	24.0	22.8	2.2	24.0	21.7	2.2	23.5	24.3	3.2	23.6	25.2	3.2	24.0	25.7	3.7	24.0	24.7	2.7
12-Jul	24.0	25.1	2.0	24.0	26.1	2.2	23.9	22.5	2.8	24.0	22.6	3.2	24.0	22.3	3.5	24.0	23.0	2.5
13-Jul	24.0	23.2	2.1	24.0	23.2	2.1	24.0	23.8	3.0	23.7	24.7	3.0	24.0	25.1	3.4	24.0	25.3	2.3
14-Jul	24.0	26.5	2.4	24.0	26.3	2.2	24.0	23.8	2.8	24.0	23.0	3.1	24.0	22.9	3.3	24.0	22.7	2.4
15-Jul	23.8	20.8	2.6	24.0	22.3	2.7	24.0	21.4	3.0	24.0	21.7	3.3	24.0	21.7	3.7	24.0	21.2	2.9
16-Jul	24.0	24.2	2.3	24.0	24.0	2.3	24.0	25.4	3.2	23.9	24.6	3.3	23.9	24.5	3.9	24.0	25.4	2.7
17-Jul	24.0	25.9	2.3	24.0	24.6	2.3	24.0	23.8	3.1	24.0	24.1	3.3	24.0	24.4	3.9	24.0	23.5	2.5
18-Jul	24.0	23.9	2.5	24.0	22.7	2.3	23.4	23.3	3.2	23.9	24.2	3.4	24.0	24.2	3.9	24.0	24.3	2.9
19-Jul	24.0	22.7	2.5	24.0	25.0	2.5	24.0	22.7	3.2	24.0	22.3	3.1	24.0	22.8	3.9	24.0	22.3	2.8
20-Jul	17.3	23.3	2.7	17.5	23.0	2.8	16.0	22.9	3.6	15.4	22.8	3.2	15.7	22.3	4.4	24.0	23.3	3.0
21-Jul																9.3	17.7	2.7
22-Jul																		
23-Jul																		
24-Jul	6.0	4.1	2.7	14.9	11.5	2.6										8.8	2.7	3.3
25-Jul	24.0	25.3	2.5	24.0	24.5	2.4	14.9	9.7	3.2	14.7	8.8	3.2	14.9	9.2	3.9	24.0	24.6	2.8
26-Jul	24.0	23.0	2.4	24.0	22.8	2.6	24.0	24.3	3.2	24.0	24.1	3.3	24.0	24.3	3.7	24.0	24.3	2.5
27-Jul	24.0	22.0	2.3	24.0	22.2	2.1	24.0	25.4	2.9	24.0	25.2	3.1	24.0	25.2	3.6	24.0	25.4	2.2
28-Jul	24.0	22.4	2.1	24.0	21.2	2.0	24.0	22.1	2.6	24.0	22.4	3.1	24.0	22.3	3.4	24.0	22.2	2.0
29-Jul	24.0	26.8	2.2	24.0	26.9	2.1	24.0	23.9	3.0	24.0	23.8	3.2	24.0	23.8	3.3	24.0	23.8	1.8
30-Jul	24.0	22.4	2.3	24.0	23.5	2.2	23.9	23.0	2.8	24.0	22.6	2.9	24.0	22.8	3.1	24.0	23.1	2.3
31-Jul	24.0	24.2	2.5	24.0	24.1	2.0	24.0	22.8	2.4	24.0	23.1	2.9	24.0	23.0	2.8	24.0	22.8	1.7
01-Aug	24.0	24.3	2.6	24.0	23.7	2.1	23.7	24.1	2.3	23.8	24.3	3.2	24.0	24.5	2.8	24.0	24.6	1.5
02-Aug	24.0	24.6	2.2	24.0	25.7	1.9	24.0	24.1	2.4	24.0	23.7	2.9	24.0	23.9	2.6	24.0	23.8	1.2
03-Aug	24.0	22.9	2.3	24.0	23.0	1.9	24.0	24.9	2.3	24.0	25.9	3.2	24.0	25.6	2.6	24.0	25.3	1.2
04-Aug	24.0	22.9	2.1	24.0	23.6	1.9	23.8	24.2	2.5	24.0	24.2	3.2	24.0	24.2	2.9	24.0	24.3	1.3
05-Aug	24.0	24.7	2.2	24.0	24.1	2.0	24.0	23.9	2.6	24.0	24.0	3.3	23.9	23.9	3.2	24.0	24.0	2.4

Table A-2. Summary of daily fishwheel effort (hours), effort used to calculated CPE (hours) and fishwheel speed (RPM) for six fishwheels operated on the Nass River, 2001.

	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Fishwheel 5			Fishwheel 6		
Date	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM
06-Aug	24.0	24.0	2.3	24.0	24.1	2.1	24.0	23.6	2.9	24.0	23.5	3.0	24.0	23.5	3.3	24.0	23.5	2.0
07-Aug	24.0	24.2	2.1	24.0	24.4	2.1	24.0	24.7	2.4	24.0	24.5	2.9	24.0	24.7	2.7	23.8	24.6	1.7
08-Aug	24.0	24.8	2.1	24.0	24.0	2.2	24.0	23.1	2.4	24.0	23.5	2.8	24.0	23.2	3.0	23.0	22.1	2.7
09-Aug	23.5	24.5	2.1	24.0	24.9	2.2	24.0	24.7	2.4	24.0	24.6	3.1	24.0	24.6	2.9	24.0	24.6	3.2
10-Aug	24.0	23.9	2.0	24.0	24.5	2.0	24.0	27.9	2.3	24.0	26.8	2.9	24.0	27.2	3.1	24.0	27.6	3.3
11-Aug	24.0	22.6	2.0	24.0	22.7	1.9	24.0	20.8	2.1	24.0	19.8	2.8	24.0	20.1	3.1	24.0	20.7	3.2
12-Aug	24.0	24.4	2.1	24.0	24.5	2.0	23.7	23.7	2.2	23.3	23.7	3.0	24.0	24.3	2.7	24.0	24.0	3.2
13-Aug	24.0	23.7	2.0	24.0	23.6	2.0	24.0	24.2	2.3	24.0	23.9	2.8	24.0	23.9	2.7	24.0	24.1	3.3
14-Aug	24.0	23.7	1.9	24.0	23.6	1.8	24.0	22.7	2.4	24.0	23.4	2.9	24.0	23.3	3.1	24.0	23.0	3.4
15-Aug	24.0	24.5	2.1	24.0	24.6	2.0	24.0	24.4	2.3	23.4	25.1	2.8	24.0	25.3	3.0	24.0	24.7	3.4
16-Aug	24.0	23.6	1.8	24.0	23.0	1.8	24.0	23.7	2.3	24.0	23.8	2.9	24.0	23.7	2.8	24.0	23.7	3.4
17-Aug	24.0	22.8	1.3	24.0	24.1	1.6	24.0	24.7	2.2	24.0	24.5	3.0	24.0	24.6	2.8	23.9	24.6	3.5
18-Aug	24.0	23.1	1.8	24.0	22.9	2.2	24.0	23.6	2.1	24.0	23.7	3.1	24.0	23.6	2.7	23.6	23.2	3.3
19-Aug	24.0	25.5	1.8	24.0	25.8		24.0	24.0	2.1	24.0	24.1	2.9	24.0	24.1	2.3	24.0	24.1	3.1
20-Aug	24.0	24.3	1.6	24.0	23.8	1.9	24.0	23.7	2.1	23.7	23.5	3.0	24.0	23.8	2.2	24.0	23.7	3.1
21-Aug	24.0	24.0	1.6	24.0	23.7	2.2	24.0	24.2	2.1	23.0	23.2	3.0	24.0	24.3	2.2	24.0	24.2	3.2
22-Aug	24.0	21.6	2.6	24.0	21.9	2.4	24.0	24.4	2.6	23.6	24.0	3.2	23.2	23.6	2.7	24.0	24.4	3.2
23-Aug	24.0	26.6	2.6	24.0	26.9	2.2	24.0	23.4	2.3	23.9	23.2	3.2	24.0	23.3	2.6	24.0	23.3	3.1
24-Aug	24.0	24.1	2.3	24.0	23.8	1.8	24.0	24.3	2.2	24.0	24.5	3.2	24.0	24.4	2.1	24.0	24.3	3.3
25-Aug	24.0	24.0	2.0	24.0	24.3	2.1	24.0	22.9	2.2	24.0	22.7	3.0	24.0	22.8	2.3	24.0	22.8	3.3
26-Aug	17.0	23.2	2.7	18.3	23.7	2.6	19.0	26.0	2.9	18.5	26.1	3.2	18.7	26.1	3.5	17.3	24.6	2.3
27-Aug																		
28-Aug				9.7	3.4	2.6				6.1	0.1	3.0	6.0	0.0	3.8	9.0	3.2	2.7
29-Aug	13.6	6.8	1.9	24.0	23.6	2.0	15.1	9.1	2.8	24.0	23.2	3.1	24.0	23.3	3.3	24.0	23.5	2.1
30-Aug	24.0	25.1	1.8	24.0	24.1	1.9	24.0	24.6	2.4	23.8	24.0	3.0	24.0	24.3	2.9	24.0	24.4	1.6
31-Aug	24.0	23.6	2.1	24.0	24.3	1.8	24.0	23.4	2.5	24.0	23.6	2.9	24.0	23.6	3.0	24.0	23.4	1.7
01-Sep	24.0	25.0	2.1	24.0	24.2	1.8	24.0	25.6	2.7	24.0	25.6	3.0	24.0	25.8	3.1	24.0	25.8	1.7
02-Sep	24.0	23.4	2.1	24.0	23.6	1.8	24.0	22.6	2.7	24.0	23.0	3.2	24.0	22.6	3.4	24.0	22.6	2.0
03-Sep	23.7	23.9	2.4	24.0	24.0	1.7	24.0	23.9	2.8	24.0	24.1	3.2	24.0	24.1	3.4	24.0	23.9	1.9
04-Sep	24.0	24.1	2.6	24.0	24.0	1.8	24.0	24.2	2.8	9.1	15.6	3.6	24.0	23.9	3.6	24.0	24.2	1.7

Table A-2. Summary of daily fishwheel effort (hours), effort used to calculated CPE (hours) and fishwheel speed (RPM) for six fishwheels operated on the Nass River, 2001.

	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Fishwheel 5			Fishwheel 6		
Date	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM	Effort	CPE	RPM
05-Sep	24.0	23.5	2.1	24.0	23.8	1.8	24.0	23.8	2.7	9.1	2.2	2.8	24.0	23.9	3.0	24.0	23.8	1.6
06-Sep	24.0	24.3	2.2	24.0	24.1	1.8	24.0	24.2	2.4	9.3	16.2	3.3	24.0	24.2	2.9	24.0	24.2	1.6
07-Sep	24.0	24.1	1.9	24.0	23.5	1.9	24.0	23.2	2.4				24.0	23.4	3.1	23.7	22.9	1.8
08-Sep	24.0	23.0	1.8	24.0	23.4	1.8	24.0	24.7	2.3				24.0	24.6	2.6	24.0	24.6	1.7
09-Sep	24.0	24.6		24.0	24.9	1.9	24.0	24.0	2.2				24.0	23.9	2.0	24.0	23.9	1.1
10-Sep	24.0	24.1	1.8	24.0	24.7	1.8	24.0	25.5	1.7				24.0	25.8	1.7	21.3	23.6	2.2
11-Sep	24.0	24.1	1.9	24.0	24.3	1.8	24.0	21.5	1.9				16.7	21.3	1.9	24.0	20.6	2.6
12-Sep	24.0	24.0	1.8	24.0	23.1	1.7	24.0	24.8	1.5							24.0	24.9	2.4
13-Sep	24.0	23.2	1.8	24.0	23.3	1.9	24.0	23.8	1.7							24.0	23.8	2.4
14-Sep	17.9	24.9	1.8	17.5	25.1	1.9	17.9	24.1	1.7							17.5	23.9	2.5
Totals	1982.4	1982.4		2159.6	2159.6		1737.5	1737.4		1428.7	1428.7		1577.9	1577.9		1896.8	1896.8	

Total hours of effort all fishwheels combined:	10782.8
Total number of days operated, all fishwheels:	482
Overall percent operational while fishing:	93.2%

	Fishwheel 1	Fishwheel 2	Fishwheel 3	Fishwheel 4	Fishwheel 5	Fishwheel 6
Total number of days operated by fishwheel:	88	94	79	67	70	84
Percent operational:	94%	96%	92%	89%	94%	94%

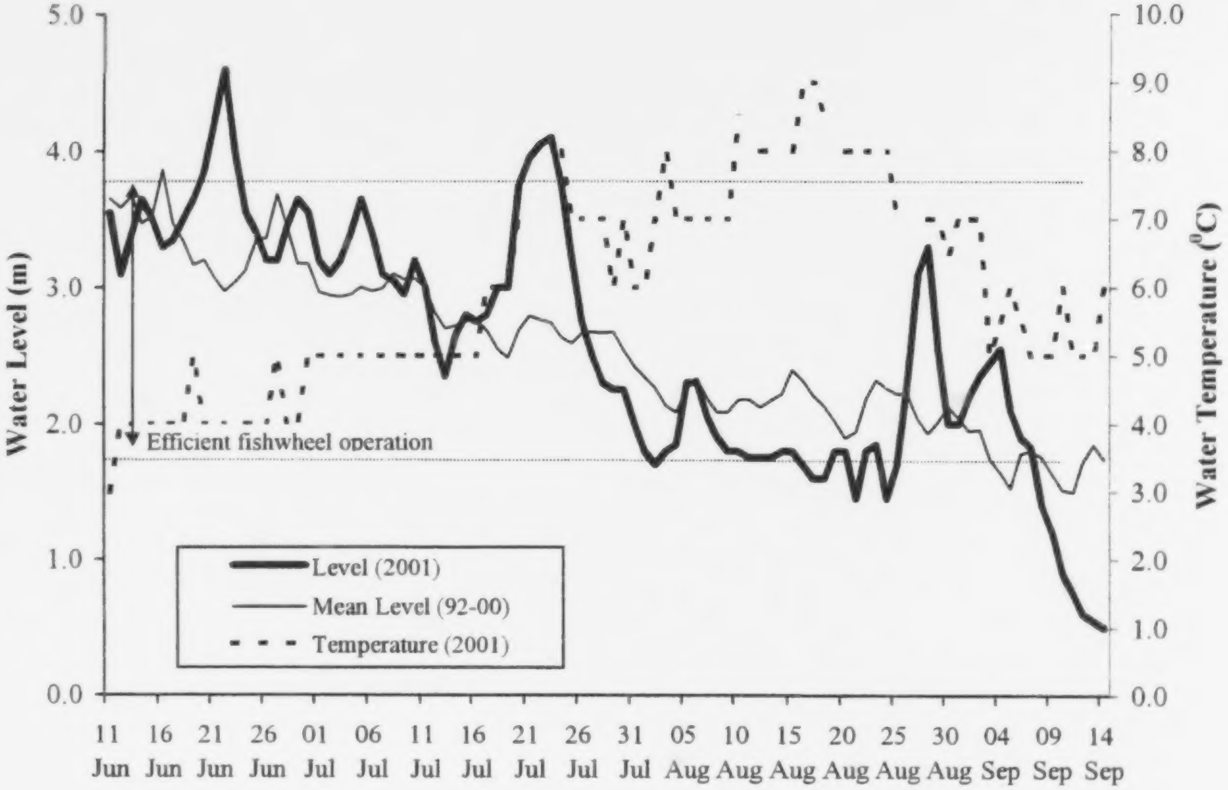


Figure A-1. Daily maximum water temperature and level in the Nass River near Gitwinksihlkw, 2001. The mean water level from 1992 to 2000 is shown for comparison.

APPENDIX B

Daily catches at the Nass River fishwheels, 2001

Table B-1. Daily catches, numbers of fish tagged and CPE (adult catch per hour) for chinook salmon captured in the Nass River fishwheels, 2001.

	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4						Fishwheel 5						Fishwheel 6					
Date	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE
07-Jun	0	0	0	0	0	0.00	3	3	3	1	1	0.80																								
08-Jun	3	3	3	0	0	0.17	16	19	14	0	1	0.63																								
09-Jun	2	5	1	0	0	0.08	16	35	16	0	1	0.63	0	0	0	0	0	0.00																		
10-Jun	2	7	2	0	0	0.09	3	38	3	0	1	0.13	0	0	0	0	0																			
11-Jun	0	7	0	0	0	0.00	1	39	1	0	1	0.17	0	0	0	0	0																			
12-Jun	3	10	3	0	0	0.13	24	63	21	0	1	0.99	0	0	0	0	0	0.00													0	0	0	0	0	0.00
13-Jun	8	18	8	0	0	0.32	82	145	79	0	1	3.33	2	2	2	0	0	0.10													4	4	4	0	0	0.16
14-Jun	0	18	0	0	0		21	166	19	0	1	0.85	0	2	0	0	0														0	4	0	0	0	
15-Jun	0	18	0	0	0	0.00	8	174	7	0	1	0.36	0	2	0	0	0														0	4	0	0	0	
16-Jun	6	24	6	0	0	0.28	28	202	24	0	1	1.13	2	4	2	0	0	0.22													1	5	1	0	0	0.11
17-Jun	21	45	17	3	3	0.75	47	249	39	2	3	1.87	2	6	2	0	0	0.08													3	8	3	0	0	0.13
18-Jun	34	79	29	1	4	1.59	51	300	39	1	4	2.19	2	8	2	0	0	0.11													10	18	8	0	0	0.40
19-Jun	0	79	0	0	4		40	340	32	0	4	1.74	0	8	0	0	0														0	18	0	0	0	
20-Jun	0	79	0	0	4		9	349	9	0	4	0.38	0	8	0	0	0														0	18	0	0	0	
21-Jun	0	79	0	0	4		0	349	0	0	4	0.00	0	8	0	0	0														0	18	0	0	0	
22-Jun	0	79	0	0	4		0	349	0	0	4		0	8	0	0	0														0	18	0	0	0	
23-Jun	0	79	0	0	4		0	349	0	0	4		0	8	0	0	0														0	18	0	0	0	
24-Jun	0	79	0	0	4		1	350	0	1	5	0.12	0	8	0	0	0														0	18	0	0	0	
25-Jun	25	104	23	0	4	2.86	28	378	26	0	5	1.14	0	8	0	0	0														3	21	3	0	0	0.34
26-Jun	162	266	109	6	10	5.78	189	567	154	4	9	6.84	7	15	5	2	2	1.36													6	27	5	0	0	0.26
27-Jun	231	497	139	9	19	10.21	219	786	122	5	14	9.58	50	65	44	1	3	1.94							1	1	1	0	0	0.23	45	72	40	0	0	1.83
28-Jun	53	550	18	5	24	2.52	41	827	12	3	17	1.95	11	76	11	0	3	0.50	29	29	28	0	0	1.22	4	5	4	1	1	0.17	36	108	32	0	0	1.53
29-Jun	21	571	19	0	24	0.91	4	831	4	0	17	0.17	0	76	0	0	3		1	30	1	0	0	0.06	0	5	0	0	1		3	111	3	0	0	0.12
30-Jun	25	596	21	1	25	0.99	18	849	17	1	18	0.72	0	76	0	0	3		0	30	0	0	0	0.00	0	5	0	0	1		1	112	1	0	0	0.04
01-Jul	187	783	0	5	30	7.50	130	979	53	3	21	4.97	66	142	62	1	4	6.37	38	68	34	1	1	1.55	12	17	11	0	1	1.25	69	181	61	3	3	2.61
02-Jul	535	1318	45	10	40	20.84	254	1233	100	6	27	10.29	124	266	22	1	5	5.11	241	309	0	3	4	10.03	61	78	6	2	3	2.52	154	335	52	2	5	6.41
03-Jul	438	1756	170	5	45	19.21	210	1443	75	3	30	9.17	240	506	0	4	9	9.93	369	678	69	2	6	14.76	172	250	0	5	8	6.92	396	731	0	6	11	16.13
04-Jul	86	1842	17	3	48	3.97	69	1512	17	5	35	3.29	2	508	2	1	10	0.10	11	689	7	1	7	1.20	32	282	29	0	8	1.66	25	756	17	0	11	2.81
05-Jul	30	1872	26	0	48	1.24	25	1537	11	3	38	1.02	0	508	0	0	10	0.00	1	690	1	0	7	0.07	2	284	0	0	8	0.10	6	762	4	0	11	0.26
06-Jul	19	1891	5	1	49	0.87	18	1555	11	3	41	0.72	1	509	1	0	10	0.11	3	693	3	0	7	0.48	2	286	2	0	8	0.29	8	770	6	1	12	0.34
07-Jul	35	1926	6	10	59	1.45	26	1581	9	5	46	1.16	40	549	38	3	13	1.65	29	722	27	2	9	1.23	5	291	3	1	9	0.21	49	819	42	8	20	2.07
08-Jul	200	2126	63	16	75	7.17	134	1715	51	8	54	4.86	249	798	0	1	14	9.93	251	973	0	6	15	9.65	61	352	13	7	16	2.24	224	1043	0	9	29	8.76
09-Jul	33	2159	26	7	82	1.62	44	1759	18	10	64	1.97	105	903	16	0	14	6.15	103	1076	47	4	19	4.26	72	424	6	2	18	3.08	265	1308	31	6	35	10.55
10-Jul	72	2231	32	10	92	2.94	52	1811	48	6	70	2.17	121	1024	84	2	16	5.02	75	1151	39	2	21	3.14	38	462	17	4	22	1.58	119	1427	58	7	42	4.88
11-Jul	19	2250	14	3	95	0.84	36	1847	16	5	75	1.66	92	1116	38	6	22	3.79	214	1365	91	4	25	8.49	65	527	33	8	30	2.53	280	1707	20	11	53	11.36
12-Jul	62	2312	36	4	99	2.47	48	1895	19	20	95	1.84	189	1305	0	9	31	8.39	433	1798	0	10	35	19.17	139	666	22	14	44	6.24	407	2114	0	30	83	17.70
13-Jul	28	2340	12	10	109	1.21	32	1927	4	6	101	1.38	127	1432	0	4	35	5.34	288	2086	0	6	41	11.67	93	759	0	13	57	3.71	165	2279	58	24	107	6.53
14-Jul	13	2353	3	6	115	0.49	17	1944	12	6	107	0.65	27	1459	0	2	37	1.13	52	2138	0	7	48	2.26	39	798	0	2	59	1.71	60	2339	8	12	119	2.65
15-Jul	3	2356	3	4	119	0.14	7	1951	7	6	113	0.31	10	1469	5	1	38	0.47	21	2159	0	2	50	0.97	1	799	1	11	70	0.05	16	2355	6	8	127	0.76
16-Jul	14	2370	11	3	122	0.58	7	1958	5	6	119	0.29	12	1481	10	4	42	0.47	23	2182	12	3	53	0.94	7	806	0	2	72	0.29	29	2384	10	6	133	1.14
17-Jul	14	2384	13	6	128	0.54	8	1966	7	1	120	0.32	35	1516	26	3	45	1.47	21	2203	8	2	55	0.87	11	817	2	5	77	0.45	18	2402	6	8	141	0.77
18-Jul	11	2395	9	6	134	0.46	14	1980	10	8	128	0.62	18	1534	13	3	48	0.77	15	2218	4	1	56	0.62	11	828	2	2	79	0.45	16	2418	15	10	151	0.66
19-Jul	7	2402	2	4	138	0.31	6	1986	3	5	133	0.24	8	1542	5	2	50	0.35	4	2222	0	0	56	0.18	4	832	0	6	85	0.18	10	2428	7	4	155	0.45
20-Jul	5	2407	4	1	139	0.21	1	1987	1	2	135	0.04	0	1542	0	0	50	0.00	6	2228	0	1	57	0.26	3	835	0	1	86	0.13	5	2433	0	1	156	0.22
21-Jul	0	2407	0	0	139		0	1987	0	0	135		0	1542	0	0	50		0	2228	0	0	57		0	835	0	0	86		0	2433	0	0	156	0.00
22-Jul	0	2407	0	0	139		0	1987	0	0	135		0	1542	0	0	50		0	2228	0	0	57		0	835	0	0	86		0	2433	0	0	156	
23-Jul	0	2407	0	0	139		0	1987	0	0	135		0	1542	0	0	50		0	2228	0	0	57		0	835	0	0	86		0	2433	0	0	156	
24-Jul	1	2408	1	0	139	0.24	5	1992	5	1	136	0.43	0	1542	0	0	50		0	2228	0	0	57		0	835	0	0	86		0	2433	0	0	156	0.00
25-Jul	3	2411	2	0	139	0.12	6	1998	3	1	137	0.24	3	1545	3	0	50	0.31	3	2231	3	0	57	0.34	0	835	0	1	87	0.00	5	2438	4	6	162	0.20
26-Jul	6	2417	2	8	147	0.26	5	2003	4	3	140	0.22	2	1547	0	1	51	0.08	4	2235	3	2	59	0.17	5	840	1	2	89	0.21	4	2442	0	2	164	0.16
27-Jul	4	2421	3	4	151	0.18	10	2013	6	2	142	0.45	8	1555	0	1	52	0.32	16	2251	0	7	66	0.64	8	848	0	5	94	0.32	20	2462	0	16	180	0.79
28-Jul	3	2424	1	5	156	0.13	5	2018	2	4	146	0.24	8	1563	2	0	52	0.36	21	2272	5	3	69	0.94	12	860	7	7	101	0.54	23	2485	10	6	186	1.04
29-Jul	5	2429	2	0	156	0.19	2	2020	0	7	153	0.07	9	1572	5	2	54	0.38	12	2284	6	3	72	0.51	9	869	5	4	105	0.38	23	2508	6	10	196	0.97
30-Jul	3	2432	2	3	159	0.13	9	2029	4	1	154	0.38	6	1578	1	2	56	0.26	28	2312	5	4	76	1.24	17	886	7	6	111	0.75	20	2528	4	4	200	0.87
31-Jul	8	2440	1	0	159	0.33	7	2036	7	2	156	0.29	5	1583	2	0	56	0.22	15	2327	2	3	79	0.65	9	895	3	0	111	0.39	15	2543	5	11	211	0.66
01-Aug	0	2440	0	1	160	0.00	2	2038	0	0	156	0.08	6	1589	0	2	58	0.25	12	2339	1	4	83	0.49	4	899	3	1	112	0.16	12	2555	2	7	218	0.49
02-Aug	7	2447	0	0	160	0.28	1	2039	0	1	157	0.04	2	1591	0	0	58	0.08	9	2348	3	0	83	0.38	6	905	2	1	113	0.25	5	2560	1	2	220	0.21
03-Aug	2	2449	0	0	160	0.09	3	2042	0	1	158	0.13	2	1593	0	3	61	0.08	9	2357	3	1	84	0.35	4	909	0	2	115	0.16	8	2568	3	4	224	0.32
04-Aug	1	2450	0	0	160	0.04	0	2042	0	0	158	0.00	7	1600	3	0	61	0.29	8	2365	4	0	84	0.33	6	915	1	3	118	0.25	11	2579	4	2	226	0.45
05-Aug	0	2450	0	0	160	0.00	0	2042	0	0	158	0.00	2	1602	1	0	61	0.08	3	2368	1	2	86	0.13	1	916	0	1	119	0.04	5	2584	2	0	226	0.21
06-Aug	3	2453	0	0	160	0.13	2	2044	0	0	158	0.08	3	1605	1	0	61	0.13	2	2370	1	0	86	0.08	0	916	0	0	119	0.00	2	2586	1	0	226	0.09
07-Aug	1	2454	0	0	160	0.04	1	2045	0	0	158	0.04	2	1607	0	0	61	0.08	4	2374	2	0	86	0.16	1	917	0	0	119	0.04	1	2587	0	0	226	0.04
08-Aug	1	2455	0	0	160	0.04	0	2045	0	0	158	0.00	1	1608	0	1	62	0.04	7	2381	0	4	90	0.30	0	917	0	0	119	0.00	3	2590	0	0	226	0.14
09-Aug	0	2455	0	0	160	0.00	4	2049	0	0	158	0.16	0	1608	0	0	62	0.00	2	2383	0	0	90	0.08	1	918	0	0	119	0.04	3	2593	0	0	226	0.12
10-Aug	1	2456	0	0	160	0.04	2	2051	0	0	158	0.08	4	1612	0	0	62	0.14	7	2390	0	0	90	0.26	2	920	0	1	120	0.07	0	2593	0	0	226	0.00

Table B-1. Daily catches, numbers of fish tagged and CPE (adult catch per hour) for chinook salmon captured in the Nass River fishwheels, 2001.

	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4						Fishwheel 5						Fishwheel 6					
Date	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE	Adults	Cum	Tags	Jacks	Cum	CPE
11-Aug	0	2456	0	1	161	0.00	2	2053	0	0	158	0.09	0	1612	0	1	63	0.00	3	2393	0	0	90	0.15	1	921	0	0	120	0.05	1	2594	0	3	229	0.05
12-Aug	3	2459	0	2	163	0.12	1	2054	0	0	158	0.04	3	1615	0	0	63	0.13	5	2398	0	0	90	0.21	2	923	0	3	123	0.08	2	2596	0	0	229	0.08
13-Aug	2	2461	0	1	164	0.08	2	2056	0	0	158	0.08	2	1617	0	0	63	0.08	3	2401	0	0	90	0.13	1	924	0	0	123	0.04	2	2598	0	0	229	0.08
14-Aug	0	2461	0	0	164	0.00	0	2056	0	0	158	0.00	1	1618	0	0	63	0.04	5	2406	0	0	90	0.21	3	927	0	0	123	0.13	1	2599	0	0	229	0.04
15-Aug	0	2461	0	0	164	0.00	3	2059	0	0	158	0.12	0	1618	0	0	63	0.00	0	2406	0	1	91	0.00	0	927	0	0	123	0.00	0	2599	0	0	229	0.00
16-Aug	1	2462	0	0	164	0.04	1	2060	0	0	158	0.04	0	1618	0	0	63	0.00	0	2406	0	0	91	0.00	0	927	0	0	123	0.00	0	2599	0	1	230	0.00
17-Aug	0	2462	0	0	164	0.00	0	2060	0	0	158	0.00	0	1618	0	0	63	0.00	1	2407	0	0	91	0.04	1	928	0	0	123	0.04	1	2600	0	0	230	0.04
18-Aug	0	2462	0	0	164	0.00	0	2060	0	0	158	0.00	0	1618	0	0	63	0.00	0	2407	0	0	91	0.00	0	928	0	0	123	0.00	0	2600	0	0	230	0.00
19-Aug	0	2462	0	0	164	0.00	1	2061	0	0	158	0.04	1	1619	0	0	63	0.04	0	2407	0	0	91	0.00	1	929	0	0	123	0.04	0	2600	0	0	230	0.00
20-Aug	1	2463	0	0	164	0.04	1	2062	0	0	158	0.04	0	1619	0	0	63	0.00	0	2407	0	1	92	0.00	1	930	0	0	123	0.04	0	2600	0	1	231	0.00
21-Aug	0	2463	0	0	164	0.00	0	2062	0	0	158	0.00	0	1619	0	0	63	0.00	0	2407	0	0	92	0.00	0	930	0	0	123	0.00	1	2601	0	0	231	0.04
22-Aug	0	2463	0	0	164	0.00	0	2062	0	1	159	0.00	0	1619	0	0	63	0.00	0	2407	0	0	92	0.00	0	930	0	0	123	0.00	2	2603	0	0	231	0.08
23-Aug	0	2463	0	0	164	0.00	0	2062	0	0	159	0.00	1	1620	0	0	63	0.04	1	2408	0	0	92	0.04	0	930	0	0	123	0.00	1	2604	0	0	231	0.04
24-Aug	0	2463	0	0	164	0.00	0	2062	0	0	159	0.00	2	1622	0	0	63	0.08	2	2410	0	0	92	0.08	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
25-Aug	0	2463	0	0	164	0.00	1	2063	0	0	159	0.04	1	1623	0	0	63	0.04	2	2412	0	0	92	0.09	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
26-Aug	0	2463	0	0	164	0.00	2	2065	0	0	159	0.08	0	1623	0	0	63	0.00	0	2412	0	0	92	0.00	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
27-Aug	0	2463	0	0	164		0	2065	0	0	159		0	1623	0	0	63		0	2412	0	0	92		0	930	0	0	123		0	2604	0	0	231	
28-Aug	0	2463	0	0	164		0	2065	0	0	159	0.00	0	1623	0	0	63		0	2412	0	0	92	0.00	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
29-Aug	0	2463	0	0	164	0.00	1	2066	0	0	159	0.04	0	1623	0	0	63	0.00	0	2412	0	0	92	0.00	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
30-Aug	0	2463	0	0	164	0.00	1	2067	0	0	159	0.04	1	1624	0	0	63	0.04	0	2412	0	0	92	0.00	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
31-Aug	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
01-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	0	930	0	0	123	0.00	0	2604	0	0	231	0.00
02-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	1	931	0	0	123	0.04	0	2604	0	0	231	0.00
03-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	1	932	0	0	123	0.04	0	2604	0	0	231	0.00
04-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	0	932	0	0	123	0.00	0	2604	0	0	231	0.00
05-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	0	932	0	0	123	0.00	1	2605	0	0	231	0.04
06-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00	0	2412	0	0	92	0.00	0	932	0	0	123	0.00	0	2605	0	0	231	0.00
07-Sep	0	2463	0	0	164	0.00	0	2067	0	0	159	0.00	0	1624	0	0	63	0.00							0	932	0	0	123	0.00	0	2605	0	0	231	0.00
08-Sep	0	2463	0	0	164	0.00	1	2068	0	0	159	0.04	0	1624	0	0	63	0.00							0	932	0	0	123	0.00	0	2605	0	0	231	0.00
09-Sep	0	2463	0	0	164	0.00	0	2068	0	0	159	0.00	0	1624	0	0	63	0.00							0	932	0	0	123	0.00	0	2605	0	0	231	0.00
10-Sep	0	2463	0	0	164	0.00	0	2068	0	0	159	0.00	1	1625	0	0	63	0.04							0	932	0	0	123	0.00	0	2605	0	0	231	0.00
11-Sep	0	2463	0	0	164	0.00	0	2068	0	0	159	0.00	0	1625	0	0	63	0.00							0	932	0	0	123	0.00	0	2605	0	0	231	0.00
12-Sep	0	2463	0	0	164	0.00	0	2068	0	0	159	0.00	1	1626	0	0	63	0.04													0	2605	0	0	231	0.00
13-Sep	0	2463	0	0	164	0.00	0	2068	0	0	159	0.00	0	1626	0	0	63	0.00													0	2605	0	0	231	0.00
14-Sep	0	2463	0	0	164	0.00	0	2068	0	0	159	0.00	0	1626	0	0	63	0.00													0	2605	0	0	231	0.00
Totals	2463		909	164		1.24	2068		1149	159		0.96	1626		408	63		0.94	2412		410	92		1.69	932		181	123		0.59	2605		543	231		1.37

Note 1 Fishwheel 1, 2, 3, 4, 5.and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively

Note 2 Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively

Note 3 Shaded regions indicate periods of non-operation of fishwheels due to high water

Table B-2. The number of chinook that were harvested from six fishwheels operated on the Nass River as part of the Nisga'a domestic fishery, 2 July to 14 July 2001.

	Gitwinksilhkw fishwheels			Grease Harbour fishwheels						
Date	1	2	Total	3	4	5	6	Total	Total	Cum.
02-Jul	39		39		3			3	42	42
03-Jul	8		8		16		1	17	25	67
04-Jul			0					0	0	67
05-Jul			0					0	0	67
06-Jul			0					0	0	67
07-Jul			0					0	0	67
08-Jul	1	0	1	176	149	45	136	506	507	574
09-Jul	0	0	0	69	46	60	66	241	241	815
10-Jul	0	0	0	19	30	15	38	102	102	917
11-Jul	0	0	0	0	0	0	0	0	0	917
12-Jul	0	0	0	83	0	53	0	136	136	1053
13-Jul	0	0	0	146	290	102	119	657	657	1710
14-Jul	0	0	0	35	51	43	62	191	191	1901
Total	**48**	**0**	**48**	**528**	**585**	**318**	**422**	**1853**	**1901**	

Table B-3. Daily catches, numbers of fish tagged and CPE (adult catch per hour) for sockeye salmon captured in the Nass River fishwheels, 2001.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3					Fishwheel 4					Fishwheel 5					Fishwheel 6				
	Adults	Cum	Tagged	Jacks	Cum	CPE	Adults	Cum	Tagged	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE
07-Jun	0	0	0	0	0	0.00	0	0	0	0	0	0.00																				
08-Jun	11	11	10	0	0	0.61	17	17	16	0	0	0.66																				
09-Jun	3	14	3	0	0	0.12	12	29	11	0	0	0.47	2	2	0	0	0.22															
10-Jun	3	17	3	0	0	0.13	8	37	7	0	0	0.35	0	2	0	0																
11-Jun	0	17	0	0	0	0.00	1	38	1	0	0	0.17	0	2	0	0																
12-Jun	6	23	6	0	0	0.26	12	50	9	0	0	0.49	1	3	0	0	0.49											1	1	0	0	0.21
13-Jun	20	43	8	0	0	0.81	27	77	18	0	0	1.10	2	5	0	0	0.10											4	5	0	0	0.16
14-Jun	0	43	0	0	0		11	88	5	0	0	0.45	0	5	0	0												0	5	0	0	
15-Jun	0	43	0	0	0	0.00	17	105	8	0	0	0.76	0	5	0	0												0	5	0	0	
16-Jun	18	61	15	0	0	0.84	34	139	23	0	0	1.37	4	9	0	0	0.45											5	10	0	0	0.55
17-Jun	41	102	28	1	1	1.46	28	167	14	1	1	1.11	8	17	0	0	0.32											11	21	0	0	0.48
18-Jun	43	145	27	0	1	2.01	57	224	32	0	1	2.45	10	27	0	0	0.55											8	29	0	0	0.32
19-Jun	0	145	0	0	1		34	258	25	1	2	1.48	0	27	0	0												0	29	0	0	
20-Jun	0	145	0	0	1		25	283	25	0	2	1.04	0	27	0	0												0	29	0	0	
21-Jun	0	145	0	0	1		3	286	3	0	2	0.19	0	27	0	0												0	29	0	0	
22-Jun	0	145	0	0	1		0	286	0	0	2		0	27	0	0												0	29	0	0	
23-Jun	0	145	0	0	1		0	286	0	0	2		0	27	0	0												0	29	0	0	
24-Jun	0	145	0	0	1		44	330	36	1	3	5.47	0	27	0	0												0	29	0	0	
25-Jun	80	225	72	0	1	9.14	131	461	118	1	4	5.32	0	27	0	0												3	32	0	0	0.34
26-Jun	162	387	127	1	2	5.78	202	663	151	2	6	7.31	7	34	0	0	1.36											25	57	0	0	1.09
27-Jun	156	543	64	0	2	6.89	215	878	102	3	9	9.40	49	83	0	0	1.91						14	14	0	0	3.21	60	117	0	0	2.44
28-Jun	62	605	39	2	4	2.95	138	1016	79	5	14	6.55	12	95	0	0	0.55	29	29	0	0	1.22	16	30	0	0	0.67	55	172	0	0	2.34
29-Jun	55	660	45	0	4	2.39	57	1073	53	1	15	2.45	0	95	0	0		2	31	0	0	0.12	0	30	0	0		17	189	0	0	0.69
30-Jun	118	778	105	1	5	4.67	127	1200	113	0	15	5.11	0	95	0	0		0	31	0	0	0.00	0	30	0	0		12	201	0	0	0.50
01-Jul	176	954	92	3	8	7.06	266	1466	105	14	29	10.17	24	119	0	0	2.32	20	51	0	0	0.81	16	46	0	0	1.66	21	222	0	0	0.79
02-Jul	109	1063	13	8	16	4.25	163	1629	69	16	45	6.60	30	149	0	0	1.24	38	89	0	0	1.58	50	96	0	0	2.07	37	259	0	0	1.54
03-Jul	62	1125	41	10	26	2.72	96	1725	49	2	47	4.19	41	190	0	0	1.70	27	116	0	0	1.08	67	163	1	1	2.69	55	314	0	0	2.24
04-Jul	40	1165	25	4	30	1.85	105	1830	58	10	57	5.01	12	202	0	0	0.61	9	125	0	0	0.98	15	178	0	1	0.78	60	374	1	1	6.74
05-Jul	51	1216	28	9	39	2.11	105	1935	51	9	66	4.27	6	208	0	0	0.34	8	133	0	0	0.53	36	214	1	2	1.82	26	400	0	1	1.13
06-Jul	55	1271	29	10	49	2.51	127	2062	67	14	80	5.11	5	213	1	1	0.53	5	138	1	1	0.80	18	232	0	2	2.61	62	462	1	2	2.66
07-Jul	67	1338	9	16	65	2.77	95	2157	16	16	96	4.23	21	234	0	1	0.86	21	159	0	1	0.89	18	250	0	2	0.76	32	494	0	2	1.35
08-Jul	192	1530	86	50	115	6.88	204	2361	75	40	136	7.40	29	263	1	2	1.16	41	200	1	2	1.58	43	293	2	4	1.58	36	530	2	4	1.41
09-Jul	66	1596	44	26	141	3.24	163	2524	80	54	190	7.31	31	294	0	2	1.82	25	225	3	5	1.03	49	342	7	11	2.09	10	540	2	6	0.40
10-Jul	169	1765	84	57	198	6.89	169	2693	99	33	223	7.04	63	357	8	10	2.61	41	266	5	10	1.71	68	410	9	20	2.82	50	590	5	11	2.05
11-Jul	50	1815	17	20	218	2.20	100	2793	26	16	239	4.60	133	490	26	36	5.48	86	352	12	22	3.41	132	542	33	53	5.15	91	681	29	40	3.69
12-Jul	224	2039	92	59	277	8.92	227	3020	74	94	333	8.71	125	615	29	65	5.55	48	400	32	54	2.13	106	648	80	133	4.76	131	812	85	125	5.70
13-Jul	122	2161	61	47	324	5.26	150	3170	73	46	379	6.46	68	683	15	80	2.86	53	453	22	76	2.15	54	702	87	220	2.16	134	946	91	216	5.31
14-Jul	176	2337	67	61	385	6.65	225	3395	112	51	430	8.54	179	862	30	110	7.52	60	513	19	95	2.61	75	777	46	266	3.28	210	1156	61	277	9.26
15-Jul	47	2384	42	15	400	2.27	125	3520	106	39	469	5.61	95	957	20	130	4.43	39	552	11	106	1.80	67	844	44	310	3.09	164	1320	43	320	7.75
16-Jul	177	2561	104	31	431	7.33	228	3748	115	85	554	9.49	106	1063	24	154	4.17	57	609	21	127	2.32	87	931	52	362	3.55	113	1433	58	378	4.46
17-Jul	201	2762	104	73	504	7.76	209	3957	81	44	598	8.48	122	1185	29	183	5.12	58	667	25	152	2.41	86	1017	87	449	3.53	147	1580	58	436	6.27
18-Jul	233	2995	199	77	581	9.74	325	4282	70	84	682	14.30	132	1317	51	234	5.67	71	738	26	178	2.93	113	1130	66	515	4.67	149	1729	62	498	6.14
19-Jul	86	3081	12	63	644	3.79	217	4499	140	74	756	8.69	70	1387	20	254	3.09	64	802	19	197	2.87	136	1266	54	569	5.97	99	1828	36	534	4.45
20-Jul	91	3172	86	40	684	3.91	208	4707	174	54	810	9.03	36	1423	13	267	1.57	43	845	24	221	1.89	87	1353	37	606	3.90	74	1902	41	575	3.20
21-Jul	0	3172	0	0	684		0	4707	0	0	810		0	1423	0	267		0	845	0	221		0	1353	0	606		20	1922	17	592	1.13
22-Jul	0	3172	0	0	684		0	4707	0	0	810		0	1423	0	267		0	845	0	221		0	1353	0	606		0	1922	0	592	
23-Jul	0	3172	0	0	684		0	4707	0	0	810		0	1423	0	267		0	845	0	221		0	1353	0	606		0	1922	0	592	
24-Jul	17	3189	15	3	687	4.13	212	4919	187	21	831	18.41	0	1423	0	267		0	845	0	221		0	1353	0	606		7	1929	2	594	2.59
25-Jul	479	3668	104	84	771	18.95	599	5518	198	128	959	24.45	81	1504	30	297	8.35	54	899	29	250	6.16	97	1450	101	707	10.60	164	2093	76	670	6.66
26-Jul	287	3955	59	90	861	12.51	416	5934	146	131	1090	18.23	232	1736	26	323	9.55	201	1100	94	344	8.33	270	1720	265	972	11.10	365	2458	168	838	15.01
27-Jul	269	4224	141	93	954	12.23	272	6206	39	73	1163	12.26	343	2079	75	398	13.51	321	1421	72	416	12.75	299	2019	281	1253	11.86	375	2833	241	1079	14.79
28-Jul	253	4477	109	113	1067	11.31	198	6404	67	56	1219	9.34	225	2304	55	453	10.18	231	1652	73	489	10.30	242	2261	160	1413	10.88	305	3138	154	1233	13.77
29-Jul	209	4686	113	52	1119	7.79	248	6652	116	39	1258	9.23	240	2544	51	504	10.04	259	1911	70	559	10.91	176	2437	130	1543	7.39	389	3527	147	1380	16.33
30-Jul	137	4823	54	62	1181	6.13	187	6839	81	35	1293	7.96	151	2695	45	549	6.57	225	2136	61	620	9.98	165	2602	129	1672	7.24	291	3818	88	1468	12.62
31-Jul	208	5031	80	97	1278	8.61	140	6979	78	35	1328	5.80	209	2904	73	622	9.16	226	2362	63	683	9.77	142	2744	70	1742	6.19	273	4091	101	1569	11.97
01-Aug	133	5164	48	59	1337	5.48	104	7083	72	21	1349	4.39	279	3183	32	654	11.56	203	2565	60	743	8.36	104	2848	53	1795	4.25	224	4315	67	1636	9.12
02-Aug	80	5244	32	40	1377	3.25	100	7183	40	24	1373	3.89	184	3367	50	704	7.63	230	2795	36	779	9.69	112	2960	73	1868	4.69	152	4467	75	1711	6.38
03-Aug	97	5341	32	32	1409	4.23	105	7288	23	13	1386	4.58	220	3587	31	735	8.83	188	2983	63	842	7.27	118	3078	88	1956	4.62	154	4621	74	1785	6.09
04-Aug	55	5396	43	30	1439	2.40	76	7364	25	16	1402	3.23	165	3752	24	759	6.82	114	3097	22	864	4.72	81	3159	73	2029	3.34	126	4747	45	1830	5.20
05-Aug	70	5466	40	30	1469	2.83	63	7427	34	26	1428	2.61	97	3849	19	778	4.05	115	3212	31	895	4.79	69	3228	50	2079	2.89	140	4887	52	1882	5.84
06-Aug	50	5516	29	19	1488	2.09	77	7504	43	16	1444	3.20	89	3938	14	792	3.78	62	3274	13	908	2.63	52	3280	26	2105	2.21	101	4988	36	1918	4.29

Table B-3. Daily catches, numbers of fish tagged and CPE (adult catch per hour) for sockeye salmon captured in the Nass River fishwheels, 2001.

	Fishwheel 1						Fishwheel 2						Fishwheel 3					Fishwheel 4					Fishwheel 5					Fishwheel 6				
Date	Adults	Cum	Tagged	Jacks	Cum	CPE	Adults	Cum	Tagged	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE
07-Aug	43	5559	30	33	1521	1.77	67	7571	37	25	1469	2.75	111	4049	55	847	4.49	83	3357	39	947	3.39	56	3336	44	2149	2.27	94	5082	40	1958	3.82
08-Aug	47	5606	24	49	1570	1.90	48	7619	32	19	1488	2.00	108	4157	34	881	4.68	84	3441	52	999	3.58	41	3377	29	2178	1.77	73	5155	65	2023	3.31
09-Aug	21	5627	16	26	1596	0.86	49	7668	27	22	1510	1.97	94	4251	37	918	3.81	75	3516	61	1060	3.05	38	3415	46	2224	1.55	107	5262	83	2106	4.35
10-Aug	32	5659	22	22	1618	1.34	40	7708	26	31	1541	1.63	82	4333	33	951	2.94	75	3591	35	1095	2.80	133	3548	50	2274	4.89	69	5331	101	2207	2.50
11-Aug	16	5675	14	18	1636	0.71	35	7743	25	19	1560	1.55	72	4405	24	975	3.47	34	3625	30	1125	1.72	18	3566	26	2300	0.90	67	5398	91	2298	3.24
12-Aug	11	5686	9	6	1642	0.45	21	7764	9	10	1570	0.86	42	4447	17	992	1.77	46	3671	49	1174	1.94	38	3604	39	2339	1.56	78	5476	83	2381	3.25
13-Aug	18	5704	10	14	1656	0.76	25	7789	20	12	1582	1.06	54	4501	20	1012	2.23	32	3703	32	1206	1.34	22	3626	45	2384	0.92	32	5508	53	2434	1.33
14-Aug	11	5715	7	13	1669	0.46	29	7818	20	14	1596	1.23	45	4546	14	1026	1.98	29	3732	28	1234	1.24	25	3651	19	2403	1.07	37	5545	43	2477	1.61
15-Aug	11	5726	7	18	1687	0.45	47	7865	22	2	1598	1.91	46	4592	12	1038	1.89	19	3751	35	1269	0.76	14	3665	39	2442	0.55	38	5583	44	2521	1.54
16-Aug	11	5737	3	8	1695	0.47	12	7877	5	6	1604	0.52	49	4641	11	1049	2.07	14	3765	25	1294	0.59	8	3673	24	2466	0.34	27	5610	42	2563	1.14
17-Aug	7	5744	4	7	1702	0.31	22	7899	2	10	1614	0.91	35	4676	16	1065	1.42	19	3784	18	1312	0.77	13	3686	18	2484	0.53	30	5640	41	2604	1.22
18-Aug	12	5756	4	9	1711	0.52	12	7911	1	11	1625	0.52	25	4701	7	1072	1.06	25	3809	14	1326	1.06	10	3696	18	2502	0.42	9	5649	21	2625	0.39
19-Aug	6	5762	1	3	1714	0.24	7	7918	1	4	1629	0.27	27	4728	9	1081	1.12	29	3838	15	1341	1.20	12	3708	15	2517	0.50	19	5668	17	2642	0.79
20-Aug	9	5771	7	3	1717	0.37	7	7925	6	6	1635	0.29	23	4751	6	1087	0.97	15	3853	17	1358	0.64	16	3724	16	2533	0.67	15	5683	22	2664	0.63
21-Aug	9	5780	4	2	1719	0.38	12	7937	8	5	1640	0.51	14	4765	4	1091	0.58	12	3865	8	1366	0.52	5	3729	5	2538	0.21	11	5694	7	2671	0.45
22-Aug	2	5782	2	0	1719	0.09	15	7952	13	4	1644	0.69	11	4776	4	1095	0.45	8	3873	2	1368	0.33	3	3732	3	2541	0.13	7	5701	8	2679	0.29
23-Aug	9	5791	5	1	1720	0.34	29	7981	6	6	1650	1.08	13	4789	8	1103	0.56	5	3878	4	1372	0.22	6	3738	6	2547	0.26	21	5722	12	2691	0.90
24-Aug	10	5801	5	2	1722	0.42	14	7995	8	7	1657	0.59	20	4809	4	1107	0.82	9	3887	9	1381	0.37	2	3740	9	2556	0.08	13	5735	8	2699	0.53
25-Aug	4	5805	3	6	1728	0.17	6	8001	5	8	1665	0.25	7	4816	1	1108	0.31	12	3899	6	1387	0.53	1	3741	4	2560	0.04	25	5760	10	2709	1.10
26-Aug	3	5808	3	0	1728	0.13	11	8012	6	5	1670	0.46	9	4825	2	1110	0.35	3	3902	4	1391	0.12	2	3743	5	2565	0.08	9	5769	7	2716	0.37
27-Aug	0	5808	0	0	1728		0	8012	0	0	1670		0	4825	0	1110		0	3902	0	1391		0	3743	0	2565		0	5769	0	2716	
28-Aug	0	5808	0	0	1728		2	8014	1	0	1670	0.59	0	4825	0	1110		0	3902	0	1391	0.00	0	3743	0	2565	0.00	1	5770	0	2716	0.31
29-Aug	4	5812	4	3	1731	0.59	3	8017	3	4	1674	0.13	11	4836	3	1113	1.21	7	3909	0	1391	0.30	0	3743	1	2566	0.00	13	5783	4	2720	0.55
30-Aug	8	5820	3	3	1734	0.32	15	8032	9	5	1679	0.62	71	4907	12	1125	2.89	19	3928	13	1404	0.79	24	3767	24	2590	0.99	39	5822	17	2737	1.60
31-Aug	6	5826	3	5	1739	0.25	16	8048	7	3	1682	0.66	44	4951	9	1134	1.88	21	3949	6	1410	0.89	11	3778	10	2600	0.47	34	5856	7	2744	1.45
01-Sep	7	5833	3	1	1740	0.28	8	8056	2	0	1682	0.33	24	4975	8	1142	0.94	19	3968	13	1423	0.74	16	3794	12	2612	0.62	26	5882	9	2753	1.01
02-Sep	3	5836	3	2	1742	0.13	5	8061	4	1	1683	0.21	11	4986	4	1146	0.49	9	3977	3	1426	0.39	14	3808	10	2622	0.62	12	5894	2	2755	0.53
03-Sep	2	5838	1	3	1745	0.08	4	8065	2	1	1684	0.17	4	4990	6	1152	0.17	2	3979	2	1428	0.08	1	3809	4	2626	0.04	7	5901	3	2758	0.29
04-Sep	1	5839	1	1	1746	0.04	2	8067	0	2	1686	0.08	14	5004	3	1155	0.58	1	3980	0	1428	0.06	5	3814	4	2630	0.21	13	5914	3	2761	0.54
05-Sep	4	5843	3	0	1746	0.17	0	8067	0	4	1690	0.00	15	5019	6	1161	0.63	2	3982	0	1428	0.92	9	3823	9	2639	0.38	18	5932	11	2772	0.76
06-Sep	2	5845	2	0	1746	0.08	4	8071	3	0	1690	0.17	10	5029	4	1165	0.41	0	3982	2	1430	0.00	5	3828	9	2648	0.21	10	5942	7	2779	0.41
07-Sep	3	5848	0	0	1746	0.12	3	8074	0	1	1691	0.13	11	5040	3	1168	0.47						8	3336	5	2653	0.34	9	5951	8	2787	0.39
08-Sep	1	5849	1	0	1746	0.04	2	8076	0	1	1692	0.09	9	5049	5	1173	0.36						2	3838	3	2656	0.08	7	5958	6	2793	0.28
09-Sep	1	5850	0	0	1746	0.04	6	8082	1	2	1694	0.24	7	5056	5	1178	0.29						2	3840	3	2659	0.08	6	5964	5	2798	0.25
10-Sep	0	5850	0	0	1746	0.00	1	8083	0	3	1697	0.04	6	5062	2	1180	0.24						1	3841	2	2661	0.04	2	5966	3	2801	0.08
11-Sep	0	5850	0	1	1747	0.00	0	8083	0	0	1697	0.00	3	5065	3	1183	0.14						3	3844	2	2663	0.14	4	5970	2	2803	0.19
12-Sep	0	5850	0	0	1747	0.00	0	8083	0	0	1697	0.00	9	5074	1	1184	0.36											3	5973	2	2805	0.12
13-Sep	0	5850	0	0	1747	0.00	1	8084	1	0	1697	0.04	3	5077	4	1188	0.13											2	5975	1	2806	0.08
14-Sep	0	5850	0	0	1747	0.00	1	8085	1	1	1698	0.04	4	5081	1	1189	0.17											4	5979	0	2806	0.17
Totals	5850		2890	1747		2.95	8085		3951	1698		3.74	5081		1189		2.93	3982		1430		2.79	3844		2663		2.44	5979		2806		3.15

Note 1 Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively.

Note 2 Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively.

Note 3 Shaded regions indicate periods of non-operation of fishwheels due to high water.

Table B-4. The number of sockeye that were harvested from six fishwheels operated on the Nass River as part of the entitlement agreement of the Nisga'a treaty, 27 June to 28 July 2001.

	Gitwinksilhkw fishwheels			Grease Harbour fishwheels						
Date	1	2	Total	3	4	5	6	Total	Total	Cum.
27-Jun	81	94	175	0	0	0	0	0	175	175
28-Jun	13	49	62	13	28	16	51	108	170	345
29-Jun	0	0	0	0	0	0	0	0	0	345
30-Jun	0	0	0	0	0	0	0	0	0	345
01-Jul	76	143	219	0	0	0	0	0	219	564
02-Jul	48	82	130	29	38	51	37	155	285	849
03-Jul	10	43	53	41	27	63	56	187	240	1089
04-Jul	3	31	34	11	9	19	61	100	134	1223
05-Jul	18	45	63	6	7	34	26	73	136	1359
06-Jul	21	54	75	7	6	19	68	100	175	1534
07-Jul	52	70	122	23	23	21	33	100	222	1756
08-Jul	79	103	182	32	38	37	38	145	327	2083
09-Jul	10	52	62	31	26	47	9	113	175	2258
10-Jul	69	55	124	60	36	73	48	217	341	2599
11-Jul	30	68	98	132	85	128	86	431	529	3128
12-Jul	112	128	240	120	46	100	118	384	624	3752
13-Jul	48	65	113	66	53	49	122	290	403	4155
14-Jul	91	89	180	171	56	69	198	494	674	4829
15-Jul	0	0	0	94	40	67	137	338	338	5167
16-Jul	65	95	160	102	55	79	107	343	503	5670
17-Jul	81	98	179	118	53	81	131	383	562	6232
18-Jul	9	229	238	128	65	105	138	436	674	6906
19-Jul	65	49	114	69	62	116	97	344	458	7364
20-Jul	0	0	0	38	43	85	69	235	235	7599
21-Jul	0	0	0	0	0	0	0	0	0	7599
22-Jul	0	0	0	0	0	0	0	0	0	7599
23-Jul	0	0	0	0	0	0	0	0	0	7599
24-Jul	0	0	0	0	0	0	7	7	7	7606
25-Jul	326	353	679	77	49	92	152	370	1049	8655
26-Jul	200	237	437	233	184	246	340	1003	1440	10095
27-Jul	90	196	286	339	319	264	351	1273	1559	11654
28-Jul	119	119	238	108	85	70	112	375	613	12267
Total	**1716**	**2547**	**4263**	**2048**	**1433**	**1931**	**2592**	**8004**	**12267**	

Table B-5 Daily catches, numbers of fish tagged and CPE (adult catch per hour) for coho salmon captured in the Nass River fishwheels, 2001.

	Fishwheel 1						Fishwheel 2						Fishwheel 3					Fishwheel 4					Fishwheel 5					Fishwheel 6				
Date	Adults	Cum	Tagged	Jacks	Cum	CPE	Adults	Cum	Tagged	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE	Adults	Cum	Jacks	Cum	CPE
21-Jul	0	0	0	0	0		0	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	1	0.00
22-Jul	0	0	0	0	0		0	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
23-Jul	0	0	0	0	0		0	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	
24-Jul	0	0	0	0	0	0.00	0	0	0	0	0	0.00	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	0.00
25-Jul	3	3	2	1	1	0.12	0	0	0	2	2	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	1	0.00
26-Jul	1	4	1	0	1	0.04	1	1	1	0	2	0.04	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	1	0.00
27-Jul	2	6	2	0	1	0.09	2	3	2	0	2	0.09	0	0	0	0	0.00	0	0	0	0	0.00	1	1	1	1	0.04	0	0	0	1	0.00
28-Jul	2	8	1	0	1	0.09	2	5	0	0	2	0.09	0	0	0	0	0.00	1	1	0	0	0.04	1	2	0	1	0.04	1	1	0	1	0.05
29-Jul	7	15	6	1	2	0.26	8	13	6	0	2	0.30	2	2	1	1	0.08	0	1	0	0	0.00	1	3	2	3	0.04	2	3	1	2	0.08
30-Jul	19	34	12	0	2	0.85	9	22	5	0	2	0.38	2	4	0	1	0.09	2	3	0	0	0.09	5	8	0	3	0.22	4	7	0	2	0.17
31-Jul	31	65	14	1	3	1.28	9	31	9	0	2	0.37	5	9	0	1	0.22	3	6	0	0	0.13	5	13	1	4	0.22	8	15	0	2	0.35
01-Aug	39	101	37	2	5	1.61	15	46	12	0	2	0.63	6	15	0	1	0.25	3	9	1	1	0.12	6	19	0	4	0.25	8	23	0	2	0.33
02-Aug	60	164	53	3	8	2.44	19	65	16	0	2	0.74	10	25	0	1	0.41	6	15	1	2	0.25	29	48	0	4	1.22	25	48	1	3	1.05
03-Aug	57	221	53	3	11	2.49	19	84	17	0	2	0.83	17	42	2	3	0.68	7	22	6	8	0.27	36	84	4	8	1.41	23	71	7	10	0.51
04-Aug	67	288	59	7	18	2.92	15	99	13	1	3	0.64	12	54	0	3	0.50	7	29	3	11	0.29	38	122	0	8	1.57	27	98	4	14	1.11
05-Aug	48	336	44	0	18	1.94	25	124	22	0	3	1.04	2	56	1	4	0.08	11	40	2	13	0.46	27	149	2	10	1.13	26	124	3	17	1.08
06-Aug	33	369	26	0	18	1.38	15	139	14	0	3	0.62	8	64	1	5	0.34	7	47	1	14	0.30	14	163	0	10	0.60	20	144	2	19	0.85
07-Aug	64	433	51	1	19	2.64	30	169	24	1	4	1.23	42	106	1	6	1.70	30	77	1	15	1.23	68	231	5	15	2.75	71	215	1	20	2.88
08-Aug	152	585	122	4	23	6.14	36	205	20	1	5	1.50	73	179	10	16	3.16	41	118	12	27	1.75	122	353	11	26	5.25	93	308	12	32	4.21
09-Aug	184	769	126	11	34	7.52	92	297	79	5	10	3.70	115	294	2	18	4.66	83	201	11	38	3.38	228	581	12	38	9.27	197	505	12	44	8.01
10-Aug	143	912	86	4	38	5.99	86	383	51	3	13	3.51	137	431	5	23	4.92	167	368	15	53	6.24	192	773	20	58	7.06	259	764	16	60	9.39
11-Aug	137	1049	116	6	44	6.08	71	454	63	0	13	3.13	85	516	12	35	4.10	70	438	13	66	3.54	151	924	28	86	7.52	138	902	20	80	6.67
12-Aug	234	1283	138	8	52	9.59	94	548	64	1	14	3.84	98	614	9	44	4.14	114	552	6	72	4.81	223	1147	28	114	9.18	269	1171	18	98	11.20
13-Aug	244	1527	196	1	53	10.31	104	652	81	0	14	4.41	144	758	5	49	5.95	137	689	2	74	5.72	247	1394	32	146	10.33	303	1474	16	114	12.60
14-Aug	141	1668	68	4	57	5.95	83	735	59	1	15	3.51	59	817	3	52	2.60	132	821	4	78	5.64	242	1636	9	155	10.40	215	1689	5	119	9.35
15-Aug	197	1865	101	4	61	8.04	83	818	39	6	21	3.38	111	928	7	59	4.55	102	923	9	87	4.07	206	1842	17	172	8.15	192	1881	18	137	7.77
16-Aug	158	2023	44	3	64	6.69	68	886	29	2	23	2.96	85	1013	7	66	3.59	83	1006	2	89	3.49	107	1949	7	179	4.52	155	2036	12	149	6.54
17-Aug	114	2137	38	3	67	5.00	47	933	17	1	24	1.95	87	1100	1	67	3.52	123	1129	4	93	5.01	118	2067	19	198	4.79	145	2181	16	165	5.89
18-Aug	109	2246	30	4	71	4.72	43	976	18	1	25	1.88	58	1158	2	69	2.46	60	1189	0	93	2.53	104	2171	12	210	4.40	123	2304	13	178	5.31
19-Aug	135	2381	31	4	75	5.30	65	1041	27	0	25	2.52	64	1222	7	76	2.66	75	1264	2	95	3.11	89	2260	4	214	3.70	135	2439	18	196	5.61
20-Aug	80	2461	67	0	75	3.29	50	1091	37	1	26	2.10	76	1298	7	83	3.21	103	1367	6	101	4.39	87	2347	7	221	3.66	152	2591	4	200	6.41
21-Aug	49	2510	36	1	76	2.04	37	1128	19	3	29	1.56	45	1343	2	85	1.86	33	1400	1	102	1.42	57	2404	0	221	2.35	90	2681	4	204	3.72
22-Aug	28	2538	25	0	76	1.29	49	1177	18	0	29	2.24	21	1364	0	85	0.86	17	1417	1	103	0.71	42	2446	3	224	1.78	33	2714	2	206	1.35
23-Aug	49	2587	23	0	76	1.85	86	1263	29	0	29	3.20	37	1401	1	86	1.58	39	1456	1	104	1.68	71	2517	3	227	3.05	102	2816	3	209	4.37
24-Aug	28	2615	24	0	76	1.16	58	1321	38	0	29	2.44	58	1459	4	90	2.39	83	1539	1	105	3.39	88	2605	2	229	3.60	142	2958	1	210	5.84
25-Aug	55	2670	44	2	78	2.29	49	1370	21	5	34	2.02	139	1598	1	91	6.07	54	1593	1	106	2.38	121	2726	1	230	5.31	191	3149	1	211	8.38
26-Aug	32	2702	21	0	78	1.38	67	1437	33	1	35	2.83	33	1631	1	92	1.27	20	1613	0	106	0.77	45	2771	6	236	1.73	58	3207	0	211	2.36
27-Aug	0	2702	0	0	78		0	1437	0	0	35		0	1631	0	92		0	1613	0	106		0	2771	0	236		0	3207	0	211	
28-Aug	0	2702	0	0	78		14	1451	12	0	35	4.12	0	1631	0	92		0	1613	0	106	0.00	0	2771	0	236	0.00	6	3213	1	212	1.88
29-Aug	68	2770	34	0	78	10.07	101	1552	54	1	36	4.27	77	1708	1	93	8.49	47	1660	1	107	2.02	89	2860	1	237	3.82	84	3297	1	213	3.58
30-Aug	136	2906	62	2	80	5.43	111	1663	30	0	36	4.61	126	1834	1	94	5.13	105	1765	0	107	4.37	213	3073	3	240	8.78	181	3478	2	215	7.42
31-Aug	111	3017	61	2	82	4.71	60	1723	28	0	36	2.47	201	2035	0	94	8.59	125	1890	2	109	5.30	228	3301	1	241	9.67	235	3713	3	218	10.04
01-Sep	50	3067	29	0	82	2.00	45	1768	19	0	36	1.86	167	2202	3	97	6.52	210	2100	1	110	8.22	667	3968	3	244	25.84	443	4156	3	221	17.20
02-Sep	62	3129	32	0	82	2.65	35	1803	20	0	36	1.48	55	2257	0	97	2.43	50	2150	0	110	2.18	127	4095	0	244	5.63	127	4283	0	221	5.62
03-Sep	42	3171	35	1	83	1.76	52	1855	16	0	36	2.17	32	2289	0	97	1.34	14	2164	0	110	0.58	42	4137	0	244	1.75	57	4340	0	221	2.38
04-Sep	37	3208	8	0	83	1.53	27	1882	26	0	36	1.13	101	2390	1	98	4.17	6	2170	0	110	0.39	169	4306	3	247	7.07	164	4504	4	225	6.79
05-Sep	75	3283	37	0	83	3.19	33	1915	24	0	36	1.39	239	2629	2	100	10.04	39	2209	2	112	17.86	584	4890	4	251	24.42	486	4990	5	230	20.41
06-Sep	49	3332	29	0	83	2.02	27	1942	23	0	36	1.12	168	2797	1	101	6.94	40	2249	1	113	2.48	518	5408	8	259	21.42	318	5308	8	238	13.12
07-Sep	39	3371	14	0	83	1.62	38	1980	12	0	36	1.62	102	2899	4	105	4.39						304	5712	6	265	12.97	212	5520	4	242	9.24
08-Sep	26	3397	22	1	84	1.13	19	1999	15	1	37	0.81	77	2976	1	106	3.12						96	5808	0	265	3.91	125	5645	2	244	5.07
09-Sep	15	3412	10	0	84	0.61	27	2026	14	0	37	1.09	54	3030	2	108	2.25						53	5861	1	266	2.22	88	5733	0	244	3.68
10-Sep	4	3416	4	0	84	0.17	22	2048	15	0	37	0.89	50	3080	0	108	1.96						49	5910	1	267	1.90	55	5788	0	244	2.33
11-Sep	5	3421	5	1	85	0.21	14	2062	10	0	37	0.58	20	3100	0	108	0.93						22	5932	3	270	1.03	26	5814	1	245	1.26
12-Sep	4	3425	4	0	85	0.17	8	2070	8	0	37	0.35	17	3117	0	108	0.69											23	5837	0	245	0.92
13-Sep	2	3427	2	0	85	0.09	8	2078	7	0	37	0.34	18	3135	0	108	0.76											10	5847	0	245	0.42
14-Sep	5	3432	5	1	86	0.20	12	2090	11	0	37	0.48	15	3150	0	108	0.62											5	5852	0	245	0.21
Totals	3432		2090	86		2.909	2090		1227	37		1.74	3150		108		2.69	2249		113		2.36	5932		270		5.34	5852		245		4.89

Note 1: Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively
Note 2: Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively
Note 3: Shaded regions indicate periods of non operation of fishwheels due to high water

Table B-6. The number of coho that were harvested from six fishwheels operated on the Nass River as part of the entitlement agreement of the Nisga'a treaty, 10 August to 23 August 2001.

	Gitwinksihlkw fishwheels			Grease Harbour fishwheels						
Date	1	2	Total	3	4	5	6	Total	Total	Cum.
10-Aug	0	0	0	82	108	218	183	591	591	591
11-Aug	0	0	0	78	68	139	108	393	393	984
12-Aug	71	25	96	78	76	134	165	453	549	1533
13-Aug	0	0	0	69	113	157	232	571	571	2104
14-Aug	46	11	57	54	86	178	166	484	541	2645
15-Aug	0	0	0	92	89	162	167	510	510	3155
16-Aug	98	32	130	76	65	83	128	352	482	3637
17-Aug	68	19	87	67	84	94	117	362	449	4086
18-Aug	67	20	87	52	56	88	118	314	401	4487
19-Aug	81	31	112	60	73	77	127	337	449	4936
20-Aug	0	0	0	71	99	81	127	378	378	5314
21-Aug	0	0	0	36	33	49	80	198	198	5512
22-Aug	0	0	0	0	0	0	0	0	0	5512
23-Aug	0	0	0	34	39	70	90	233	233	5745
Total	**431**	**138**	**569**	**849**	**989**	**1530**	**1808**	**5176**	**5745**	

Table B-7. Daily catches, numbers of fish tagged and CPE (adult catch per hour) for steelhead captured in the Nass River fishwheels, 2001.

	Fishwheel 1					Fishwheel 2					Fishwheel 3					Fishwheel 4					Fishwheel 5					Fishwheel 6				
Date	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE
07-Jun	0	0	0	0	0.00	0	0	0	0	0.00																				
08-Jun	1	1	0	0	0.06	1	1	0	0	0.04																				
09-Jun	0	1	0	0	0.00	1	2	0	0	0.04	0	0	0	0	0.00															
10-Jun	0	1	0	0	0.00	0	2	0	0	0.00	0	0	0	0																
11-Jun	0	1	0	0	0.00	0	2	0	0	0.00	0	0	0	0																
12-Jun	0	1	0	0	0.00	3	5	0	0	0.12	0	0	0	0	0.00											0	0	0	0	0.00
13-Jun	0	1	0	0	0.00	0	5	0	0	0.00	0	0	0	0	0.00											0	0	0	0	0.00
14-Jun	0	1	0	0		0	5	0	0	0.00	0	0	0	0												0	0	0	0	
15-Jun	0	1	0	0	0.00	0	5	0	0	0.00	0	0	0	0												0	0	0	0	
16-Jun	0	1	0	0	0.00	0	5	0	0	0.00	0	0	0	0	0.00											0	0	0	0	0.00
17-Jun	0	1	0	0	0.00	2	7	0	0	0.08	1	1	0	0	0.04											0	0	0	0	0.00
18-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00											0	0	0	0	0.00
19-Jun	0	1	0	0		0	7	0	0	0.00	0	1	0	0												0	0	0	0	
20-Jun	0	1	0	0		0	7	0	0	0.00	0	1	0	0												0	0	0	0	
21-Jun	0	1	0	0		0	7	0	0	0.00	0	1	0	0												0	0	0	0	
22-Jun	0	1	0	0		0	7	0	0		0	1	0	0												0	0	0	0	
23-Jun	0	1	0	0		0	7	0	0		0	1	0	0												0	0	0	0	
24-Jun	0	1	0	0		0	7	0	0	0.00	0	1	0	0												0	0	0	0	
25-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0												0	0	0	0	0.00
26-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00											0	0	0	0	0.00
27-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00						0	0	0	0	0.00	1	1	0	0	0.04
28-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
29-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0		0	0	0	0	0.00	0	0	0	0		0	1	0	0	0.00
30-Jun	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0		0	0	0	0	0.00	0	0	0	0		0	1	0	0	0.00
01-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
02-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
03-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
04-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
05-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
06-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
07-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
08-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
09-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
10-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
11-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
12-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
13-Jul	0	1	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
14-Jul	1	2	0	0	0.04	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
15-Jul	0	2	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
16-Jul	0	2	0	0	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
17-Jul	1	3	1	1	0.04	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
18-Jul	0	3	0	1	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
19-Jul	0	3	0	1	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	1	0	0	0.00
20-Jul	0	3	0	1	0.00	0	7	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	1	2	1	1	0.04
21-Jul	0	3	0	1		0	7	0	0		0	1	0	0		0	0	0	0		0	0	0	0		0	2	0	1	0.00
22-Jul	0	3	0	1		0	7	0	0		0	1	0	0		0	0	0	0		0	0	0	0		0	2	0	1	
23-Jul	0	3	0	1		0	7	0	0		0	1	0	0		0	0	0	0		0	0	0	0		0	2	0	1	
24-Jul	0	3	0	1	0.00	0	7	0	0	0.00	0	1	0	0		0	0	0	0		0	0	0	0		0	2	0	1	0.00
25-Jul	0	3	0	1	0.00	1	8	0	0	0.04	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	2	0	1	0.00
26-Jul	1	4	1	2	0.04	0	8	0	0	0.00	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	2	0	1	0.00
27-Jul	0	4	0	2	0.00	2	10	2	2	0.09	0	1	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	2	0	1	0.00
28-Jul	0	4	0	2	0.00	1	11	0	2	0.05	0	1	0	0	0.00	1	1	1	1	0.04	0	0	0	0	0.00	0	2	0	1	0.00
29-Jul	1	5	1	3	0.04	2	13	1	3	0.07	0	1	0	0	0.00	1	2	1	2	0.04	0	0	0	0	0.00	0	2	0	1	0.00
30-Jul	0	5	0	3	0.00	1	14	1	4	0.04	0	1	0	0	0.00	0	2	0	2	0.00	1	1	1	1	0.04	4	6	3	4	0.17
31-Jul	1	6	1	4	0.04	2	16	2	6	0.08	0	1	0	0	0.00	0	2	0	2	0.00	1	2	1	2	0.04	3	9	3	7	0.13
01-Aug	1	7	1	5	0.04	1	17	1	7	0.04	0	1	0	0	0.00	1	3	1	3	0.04	0	2	0	2	0.00	3	12	3	10	0.12
02-Aug	4	11	4	9	0.16	13	30	12	19	0.51	3	4	3	3	0.12	2	5	2	5	0.08	0	2	0	2	0.00	2	14	2	12	0.08
03-Aug	3	14	2	11	0.13	2	32	2	21	0.09	1	5	1	4	0.04	2	7	2	7	0.08	2	4	2	4	0.08	2	16	2	14	0.08

Table B-7 Daily catches, numbers of fish tagged and CPE (adult catch per hour) for steelhead captured in the Nass River fishwheels, 2001.

	Fishwheel 1					Fishwheel 2					Fishwheel 3					Fishwheel 4					Fishwheel 5					Fishwheel 6				
Date	Adults	Cum	Tagged	Cum	CPE	Adults	Cum.	Tagged	Cum	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE	Adults	Cum.	Tagged	Cum.	CPE
04-Aug	2	16	2	13	0.09	3	35	3	24	0.13	1	6	1	5	0.04	0	7	0	7	0.00	1	5	1	5	0.04	5	21	5	19	0.21
05-Aug	0	16	0	13	0.00	0	35	0	24	0.00	1	7	1	6	0.04	1	8	1	8	0.04	1	6	1	6	0.04	3	24	2	21	0.13
06-Aug	0	16	0	13	0.00	1	36	1	25	0.04	2	9	2	8	0.08	1	9	1	9	0.04	1	7	1	7	0.04	1	25	1	22	0.04
07-Aug	2	18	2	15	0.08	2	38	2	27	0.08	4	13	4	12	0.16	2	11	2	11	0.08	0	7	0	7	0.00	0	25	0	22	0.00
08-Aug	5	23	5	20	0.20	3	41	2	29	0.13	2	15	2	14	0.09	2	13	2	13	0.09	4	11	4	11	0.17	4	29	4	26	0.18
09-Aug	6	29	5	25	0.25	13	54	12	41	0.52	2	17	2	16	0.08	3	16	3	16	0.12	1	12	1	12	0.04	8	37	7	33	0.33
10-Aug	0	29	0	25	0.00	7	61	6	47	0.29	3	20	3	19	0.11	10	26	10	26	0.37	5	17	2	14	0.18	7	44	7	40	0.25
11-Aug	4	33	4	29	0.18	7	68	7	54	0.31	8	28	7	26	0.39	4	30	3	29	0.20	7	24	4	18	0.35	9	53	9	49	0.44
12-Aug	4	37	3	32	0.16	12	80	12	66	0.49	8	36	8	34	0.34	4	34	3	32	0.17	5	29	4	22	0.21	9	62	7	56	0.37
13-Aug	3	40	3	35	0.13	7	87	5	71	0.30	10	46	10	44	0.41	2	36	2	34	0.08	4	33	4	26	0.17	7	69	6	62	0.29
14-Aug	2	42	2	37	0.08	2	89	2	73	0.08	6	52	5	49	0.26	2	38	2	36	0.09	5	38	5	31	0.21	18	87	16	78	0.78
15-Aug	4	46	4	41	0.16	6	95	5	78	0.24	2	54	2	51	0.08	1	39	1	37	0.04	3	41	2	33	0.12	8	95	7	85	0.32
16-Aug	2	48	2	43	0.08	5	100	5	83	0.22	2	56	2	53	0.08	5	44	5	42	0.21	5	46	4	37	0.21	5	100	5	90	0.21
17-Aug	3	51	3	46	0.13	10	110	10	93	0.42	7	63	7	60	0.28	1	45	1	43	0.04	2	48	2	39	0.08	10	110	10	100	0.41
18-Aug	1	52	1	47	0.04	3	113	3	96	0.13	5	68	4	64	0.21	2	47	2	45	0.08	2	50	2	41	0.08	12	122	12	112	0.52
19-Aug	3	55	3	50	0.12	9	122	9	105	0.35	9	77	8	72	0.37	2	49	2	47	0.08	5	55	5	46	0.21	5	127	5	117	0.21
20-Aug	4	59	4	54	0.16	3	125	3	108	0.13	8	85	8	80	0.34	0	49	0	47	0.00	1	56	0	46	0.04	3	130	3	120	0.13
21-Aug	6	65	6	60	0.25	8	133	8	116	0.34	9	94	9	89	0.37	4	53	4	51	0.17	2	58	2	48	0.08	3	133	3	123	0.12
22-Aug	0	65	0	60	0.00	10	143	10	126	0.46	0	94	0	89	0.00	1	54	1	52	0.04	2	60	2	50	0.08	3	136	3	126	0.12
23-Aug	0	65	0	60	0.00	5	148	5	131	0.19	2	96	2	91	0.09	3	57	3	55	0.13	2	62	2	52	0.09	1	137	1	127	0.04
24-Aug	1	66	1	61	0.04	17	165	16	147	0.71	6	102	6	97	0.25	5	62	5	60	0.20	3	65	3	55	0.12	9	146	9	136	0.37
25-Aug	3	69	3	64	0.13	10	175	10	157	0.41	9	111	9	106	0.39	0	62	0	60	0.00	2	67	2	57	0.09	6	152	6	142	0.26
26-Aug	1	70	1	65	0.04	13	188	13	170	0.55	3	114	3	109	0.12	3	65	3	63	0.12	2	69	2	59	0.08	2	154	2	144	0.08
27-Aug	0	70	0	65		0	188	0	170		0	114	0	109		0	65	0	63		0	69	0	59		0	154	0	144	
28-Aug	0	70	0	65		0	188	0	170	0.00	0	114	0	109		0	65	0	63	0.00	0	69	0	59	0.00	0	154	0	144	0.00
29-Aug	1	71	1	66	0.15	6	194	6	176	0.25	3	117	3	112	0.33	1	66	1	64	0.04	3	72	3	62	0.13	3	157	3	147	0.13
30-Aug	6	77	6	72	0.24	8	202	7	183	0.33	13	130	13	125	0.53	13	79	12	76	0.54	7	79	7	69	0.29	21	178	21	168	0.86
31-Aug	8	85	8	80	0.34	15	217	15	198	0.62	12	142	11	136	0.51	4	83	3	79	0.17	10	89	9	78	0.42	18	196	17	185	0.77
01-Sep	4	89	3	83	0.16	13	230	12	210	0.54	35	177	33	169	1.37	23	106	22	101	0.90	17	106	16	94	0.66	70	266	66	251	2.72
02-Sep	6	95	6	89	0.26	5	235	4	214	0.21	2	179	2	171	0.09	1	107	1	102	0.04	5	111	5	99	0.22	3	269	3	254	0.13
03-Sep	1	96	1	90	0.04	9	244	9	223	0.37	0	179	0	171	0.00	2	109	2	104	0.08	3	114	3	102	0.12	5	274	5	259	0.21
04-Sep	5	101	5	95	0.21	2	246	2	225	0.08	4	183	3	174	0.17	0	109	0	104	0.00	1	115	1	103	0.04	4	278	4	263	0.17
05-Sep	4	105	4	99	0.17	8	254	6	231	0.34	11	194	11	185	0.46	0	109	0	104	0.00	10	125	9	112	0.42	33	311	30	293	1.39
06-Sep	3	108	3	102	0.12	12	266	10	241	0.50	25	219	22	207	1.03	2	111	2	106	0.12	13	138	13	125	0.54	33	344	32	325	1.36
07-Sep	1	109	1	103	0.04	9	275	9	250	0.38	23	242	23	230	0.99						19	157	17	142	0.81	51	395	48	373	2.22
08-Sep	6	115	6	109	0.26	3	278	2	252	0.13	16	258	16	246	0.65						6	163	5	147	0.24	19	414	19	392	0.77
09-Sep	0	115	0	109	0.00	5	283	5	257	0.20	8	266	8	254	0.33						1	164	1	148	0.04	12	426	12	404	0.50
10-Sep	2	117	2	111	0.08	9	292	8	265	0.36	15	281	15	269	0.59						3	167	3	151	0.12	3	429	3	407	0.13
11-Sep	0	117	0	111	0.00	1	293	1	266	0.04	8	289	8	277	0.37						0	167	0	151	0.00	2	431	2	409	0.10
12-Sep	0	117	0	111	0.00	2	295	2	268	0.09	3	292	3	280	0.12											4	435	4	413	0.16
13-Sep	1	118	1	112	0.04	2	297	2	270	0.09	4	296	3	283	0.17											2	437	2	415	0.08
14-Sep	0	118	0	112	0.00	0	297	0	270	0.00	8	304	8	291	0.33											1	438	1	416	0.04
Totals:																														
All [a]	118		112		0.06	297		270		0.14	304		291		0.18	111		106		0.08	167		151		0.11	438		416		0.23
Summer Run [b]	117		112		0.07	290		270		0.17	295		283		0.18	111		106		0.08	167		151		0.11	436		415		0.26

[a] Total from 7 June to 14 September.

[b] Total from 1 July to 14 September (excludes winter-run fish and kelts).

Note 1: Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively

Note 2: Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively

Note 3: Shaded regions indicate periods of non-operation of fishwheels due to high water

Table B-8. Daily catches of pink and chum salmon in the Nass River fishwheels, 2001.

	Pink														Chum													
Date	FW1	Cum.	FW2	Cum.	Fw3	Cum.	Fw4	Cum.	FW5	Cum.	FW6	Cum.	Total	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW5	Cum.	FW6	Cum.	Total	Cum.
01-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-Jul	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-Jul	0	0	1	2	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jul	0	0	1	3	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jul	1	1	4	7	0	0	0	0	0	0	0	0	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jul	0	1	3	10	0	0	0	0	0	0	0	0	3	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Jul	1	2	0	10	1	1	0	0	0	0	0	0	2	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Jul	4	6	8	18	1	2	1	1	0	0	0	0	14	27	0	0	0	0	1	1	0	0	0	0	0	0	1	1
13-Jul	2	8	7	25	1	3	0	1	0	0	0	0	10	37	0	0	0	0	0	1	0	0	0	0	0	0	0	1
14-Jul	1	9	4	29	1	4	0	1	0	0	0	0	6	43	0	0	0	0	0	1	0	0	0	0	0	0	0	1
15-Jul	1	10	2	31	0	4	0	1	0	0	0	0	3	46	0	0	0	0	0	1	0	0	0	0	0	0	0	1
16-Jul	2	12	4	35	0	4	0	1	2	2	0	0	8	54	0	0	0	0	0	1	0	0	0	0	0	0	0	1
17-Jul	3	15	9	44	0	4	1	2	0	2	0	0	13	67	1	1	0	0	0	1	0	0	0	0	0	0	1	2
18-Jul	6	21	4	48	0	4	0	2	1	3	0	0	11	78	0	1	1	1	0	1	0	0	0	0	0	0	1	3
19-Jul	2	23	14	62	0	4	0	2	0	3	0	0	16	94	0	1	1	2	0	1	0	0	0	0	0	0	1	4
20-Jul	0	23	3	65	0	4	0	2	0	3	0	0	3	97	0	1	0	2	0	1	0	0	0	0	0	0	0	4
21-Jul	0	23	0	65	0	4	0	2	0	3	0	0	0	97	0	1	0	2	0	1	0	0	0	0	0	0	0	4
22-Jul	0	23	0	65	0	4	0	2	0	3	0	0	0	97	0	1	0	2	0	1	0	0	0	0	0	0	0	4
23-Jul	0	23	0	65	0	4	0	2	0	3	0	0	0	97	0	1	0	2	0	1	0	0	0	0	0	0	0	4
24-Jul	2	25	0	65	0	4	0	2	0	3	0	0	2	99	0	1	0	2	0	1	0	0	0	0	0	0	0	4
25-Jul	39	64	67	132	2	6	1	3	0	3	1	1	110	209	0	1	2	4	0	1	0	0	0	0	0	0	2	6
26-Jul	71	135	109	241	4	10	0	3	5	8	0	1	189	398	0	1	1	5	0	1	0	0	0	0	0	0	1	7
27-Jul	134	269	139	380	3	13	2	5	26	34	11	12	315	713	0	1	0	5	1	2	0	0	0	0	0	0	1	8
28-Jul	223	492	201	581	12	25	6	11	33	67	20	32	495	1208	0	1	0	5	0	2	0	0	0	0	0	0	0	8
29-Jul	271	763	352	933	11	36	10	21	48	115	35	67	727	1935	0	1	1	6	0	2	0	0	1	1	0	0	2	10
30-Jul	383	1146	303	1236	17	53	8	29	55	170	26	93	792	2727	0	1	1	7	1	3	0	0	0	1	0	0	2	12
31-Jul	592	1738	382	1618	39	92	32	61	118	288	92	185	1255	3982	0	1	0	7	0	3	0	0	0	1	1	1	1	13
01-Aug	945	2683	549	2167	90	182	35	96	183	471	104	289	1906	5888	0	1	0	7	1	4	0	0	0	1	0	1	1	14
02-Aug	1014	3697	538	2705	111	293	50	146	315	786	144	433	2172	8060	0	1	1	8	0	4	0	0	1	2	0	1	2	16
03-Aug	787	4484	299	3004	115	408	52	198	460	1246	231	664	1944	10004	1	2	0	8	0	4	0	0	0	2	0	1	1	17
04-Aug	416	4900	158	3162	74	482	41	239	297	1543	149	813	1135	11139	0	2	1	9	0	4	0	0	1	3	0	1	2	19
05-Aug	208	5108	231	3393	56	538	34	273	187	1730	99	912	815	11954	0	2	1	10	0	4	0	0	1	4	0	1	2	21
06-Aug	132	5240	140	3533	28	566	8	281	83	1813	68	980	459	12413	0	2	1	11	1	5	0	0	0	4	0	1	2	23
07-Aug	282	5522	356	3889	96	662	32	313	254	2067	120	1100	1140	13553	1	3	0	11	0	5	0	0	0	4	0	1	1	24
08-Aug	525	6047	402	4291	124	786	44	357	268	2335	173	1273	1536	15089	0	3	2	13	0	5	0	0	0	4	0	1	2	26
09-Aug	524	6571	344	4635	144	930	47	404	300	2635	249	1522	1608	16697	1	4	2	15	0	5	0	0	0	4	0	1	3	29
10-Aug	364	6935	356	4991	119	1049	53	457	322	2957	218	1740	1432	18129	0	4	2	17	0	5	0	0	2	6	0	1	4	33
11-Aug	249	7184	220	5211	47	1096	49	506	163	3120	179	1919	907	19036	0	4	0	17	0	5	0	0	1	7	1	2	2	35
12-Aug	237	7421	173	5384	49	1145	55	561	241	3361	145	2064	900	19936	0	4	1	18	3	8	1	1	0	7	1	3	6	41
13-Aug	273	7694	265	5649	55	1200	35	596	192	3553	138	2202	958	20894	1	5	1	19	1	9	0	1	0	7	0	3	3	44
14-Aug	162	7856	263	5912	21	1221	22	618	138	3691	86	2288	692	21586	0	5	3	22	0	9	0	1	1	8	0	3	4	48
15-Aug	307	8163	280	6192	57	1278	36	654	182	3873	172	2460	1034	22620	0	5	2	24	0	9	1	2	1	9	0	3	4	52
16-Aug	227	8390	252	6444	44	1322	33	687	144	4017	107	2567	807	23427	0	5	1	25	0	9	0	2	0	9	0	3	1	53
17-Aug	190	8580	192	6636	59	1381	64	751	184	4201	155	2722	844	24271	0	5	2	27	1	10	0	2	0	9	0	3	3	56
18-Aug	160	8740	64	6700	35	1416	59	810	155	4356	114	2836	587	24858	0	5	2	29	3	13	1	3	0	9	0	3	6	62
19-Aug	165	8905	154	6854	37	1453	53	863	182	4538	90	2926	681	25539	2	7	4	33	2	15	0	3	0	9	0	3	8	70
20-Aug	98	9003	169	7023	38	1491	71	934	161	4699	92	3018	629	26168	0	7	2	35	0	15	1	4	0	9	0	3	3	73

Table B-8. Daily catches of pink and chum salmon in the Nass River fishwheels, 2001.

	Pink														Chum													
Date	FW1	Cum.	FW2	Cum.	Fw3	Cum.	Fw4	Cum.	FW5	Cum.	FW6	Cum.	Total	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW5	Cum.	FW6	Cum.	Total	Cum.
21-Aug	64	9067	239	7262	33	1524	44	978	101	4800	69	3087	550	26718	1	8	0	35	0	15	0	4	1	10	0	3	2	75
22-Aug	44	9111	91	7353	3	1527	5	983	26	4826	10	3097	179	26897	1	9	1	36	0	15	0	4	0	10	0	3	2	77
23-Aug	46	9157	108	7461	10	1537	12	995	13	4839	29	3126	218	27115	0	9	0	36	0	15	0	4	0	10	0	3	0	77
24-Aug	105	9262	224	7685	34	1571	46	1041	80	4919	71	3197	560	27675	1	10	2	38	0	15	0	4	0	10	0	3	3	80
25-Aug	239	9501	368	8053	38	1609	56	1097	90	5009	99	3296	890	28565	0	10	6	44	1	16	0	4	0	10	0	3	7	87
26-Aug	48	9549	153	8206	8	1617	14	1111	78	5087	35	3331	336	28901	0	10	2	46	0	16	0	4	1	11	1	4	4	91
27-Aug	0	9549	0	8206	0	1617	0	1111	0	5087	0	3331	0	28901	0	10	0	46	0	16	0	4	0	11	0	4	0	91
28-Aug	0	9549	11	8217	0	1617	0	1111	0	5087	2	3333	13	28914	0	10	0	46	0	16	0	4	0	11	0	4	0	91
29-Aug	51	9600	155	8372	16	1633	4	1115	19	5106	7	3340	252	29166	0	10	1	47	0	16	0	4	0	11	0	4	1	92
30-Aug	318	9918	528	8900	61	1694	33	1148	111	5217	41	3381	1092	30258	0	10	1	48	0	16	0	4	0	11	0	4	1	93
31-Aug	410	10328	350	9250	100	1794	52	1200	201	5418	77	3458	1190	31448	1	11	3	51	0	16	0	4	0	11	0	4	4	97
01-Sep	440	10768	562	9812	105	1899	69	1269	262	5680	109	3567	1547	32995	0	11	5	56	0	16	0	4	0	11	1	5	6	103
02-Sep	141	10909	362	10174	29	1928	11	1280	133	5813	38	3605	714	33709	0	11	1	57	0	16	0	4	0	11	0	5	1	104
03-Sep	47	10956	240	10414	25	1953	6	1286	59	5872	14	3619	391	34100	0	11	2	59	0	16	0	4	0	11	0	5	2	106
04-Sep	39	10995	194	10608	68	2021	3	1289	72	5944	34	3653	410	34510	1	12	1	60	1	17	0	4	0	11	0	5	3	109
05-Sep	169	11164	459	11067	106	2127	10	1299	402	6346	147	3800	1293	35803	1	13	4	64	0	17	0	4	1	12	0	5	6	115
06-Sep	409	11573	531	11598	131	2258	19	1318	472	6818	122	3922	1684	37487	3	16	2	66	0	17	1	5	2	14	0	5	8	123
07-Sep	392	11965	766	12364	93	2351			367	7185	105	4027	1723	39210	3	19	11	77	1	18			1	15	0	5	16	139
08-Sep	195	12160	532	12896	90	2441			198	7383	73	4100	1088	40298	2	21	4	81	1	19			1	16	0	5	8	147
09-Sep	89	12249	665	13561	53	2494			167	7550	73	4173	1047	41345	2	23	3	84	0	19			0	16	0	5	5	152
10-Sep	11	12260	426	13987	46	2540			96	7646	28	4201	607	41952	0	23	3	87	0	19			0	16	0	5	3	155
11-Sep	38	12298	177	14164	13	2553			14	7660	20	4221	262	42214	0	23	1	88	0	19			1	17	0	5	2	157
12-Sep	10	12308	67	14231	5	2558					19	4240	101	42315	0	23	0	88	0	19					0	5	0	157
13-Sep	17	12325	66	14297	14	2572					15	4255	112	42427	0	23	0	88	0	19					1	6	1	158
14-Sep	5	12330	49	14346	18	2590					9	4264	81	42508	1	24	3	91	0	19					0	6	4	162
Totals	12330		14346		2590		1318		7660		4264		42508		24		91		19		5		17		6		162	

Note 1: Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively.

Note 2: Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively.

Note 3: Shaded regions indicate periods of non-operation of fishwheels due to high water.

Table B-9. Catches of other salmonids in the Nass River fishwheels, 2001.

	Dolly Varden							Cutthroat trout							Whitefish						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
07-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
10-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Jun	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Jun	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Jun	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
19-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Jun	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
27-Jun	3	0	0	0	0	0	3	2	0	0	0	0	0	2	0	0	0	0	0	0	0
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
04-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jul	0	1	0	0	0	0	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0
09-Jul	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jul	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	1	0	1
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
12-Jul	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-9. Catches of other salmonids in the Nass River fishwheels, 2001.

Date	Dolly Varden							Cutthroat trout							Whitefish						
	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
13-Jul	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0
14-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
15-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
17-Jul	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19-Jul	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	1
20-Jul	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jul	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0
26-Jul	0	5	0	0	0	0	5	0	0	0	0	1	0	1	0	1	0	0	0	0	1
27-Jul	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Jul	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jul	0	1	0	0	0	0	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0
30-Jul	1	3	0	0	0	0	4	0	3	0	0	0	0	3	0	0	0	0	0	0	0
31-Jul	5	4	0	0	0	0	9	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01-Aug	2	5	0	0	0	0	7	0	3	0	0	0	0	3	0	0	0	0	0	0	0
02-Aug	6	2	0	0	0	0	8	0	1	0	0	0	0	1	1	0	0	0	0	0	1
03-Aug	1	5	0	0	0	0	6	3	0	0	0	0	0	3	0	0	0	0	0	0	0
04-Aug	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-Aug	1	7	0	0	0	0	8	0	3	0	0	0	0	3	0	0	0	0	0	0	0
06-Aug	0	3	1	0	0	0	4	0	1	0	0	0	0	1	0	0	0	0	1	1	2
07-Aug	0	6	0	0	0	0	6	0	3	0	0	0	0	3	0	0	0	0	0	0	0
08-Aug	3	3	0	0	1	0	7	0	2	0	0	0	0	2	0	1	0	0	0	0	1
09-Aug	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0
10-Aug	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Aug	2	2	0	0	0	0	4	1	3	0	0	0	0	4	1	0	0	0	0	0	1
12-Aug	2	3	0	0	0	0	5	0	2	0	0	1	0	3	0	0	0	0	0	1	1
13-Aug	0	5	0	0	1	0	6	1	1	0	0	0	0	2	0	0	0	0	0	0	0
14-Aug	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Aug	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Aug	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Aug	2	4	0	0	0	0	6	0	1	0	0	0	0	1	0	0	0	0	0	0	0

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Table B-9. Catches of other salmonids in the Nass River fishwheels, 2001.

	Dolly Varden							Cutthroat trout							Whitefish						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
18-Aug	1	2	0	0	0	0	3	0	0	1	0	0	0	1	0	0	0	0	1	0	1
19-Aug	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Aug	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Aug	0	7	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Aug	1	6	0	0	0	1	8	0	1	0	0	0	0	1	0	1	0	0	1	0	2
23-Aug	0	8	0	0	0	0	8	0	3	0	0	0	0	3	0	0	0	1	0	0	1
24-Aug	1	5	1	0	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Aug	1	15	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Aug	0	4	0	0	0	0	4	0	2	0	0	0	0	2	0	0	0	0	0	0	0
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Aug	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Aug	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0
31-Aug	3	1	0	0	0	2	6	0	1	0	0	0	0	1	0	0	0	0	0	0	0
01-Sep	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1	2
02-Sep	1	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-Sep	0	5	0	0	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-Sep	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-Sep	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Sep	0	4	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-Sep	0	12	3		0	0	15	0	1	0		0	0	1	1	2	0		0	0	3
08-Sep	0	3	0		0	1	4	0	0	0		0	0	0	0	1	1		0	0	2
09-Sep	0	16	1		2	0	19	0	1	0		0	0	1	0	7	0		0	0	7
10-Sep	2	13	1		0	0	16	0	0	0		0	0	0	1	8	0		0	1	10
11-Sep	0	13	0		0	0	13	0	1	0		0	0	1	0	5	1		0	0	6
12-Sep	2	5	1			0	8	0	1	0			0	1	0	3	0			0	3
13-Sep	8	18	1			1	28	2	0	0			0	2	2	8	1			0	11
14-Sep	13	13	2			1	29	1	2	0			0	3	0	0	1			0	1
Totals	71	249	12	0	6	9	347	17	49	1	0	2	0	69	10	41	4	2	4	6	67

Note 1: Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively.

Note 2: Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively.

Note 3: Shaded regions indicate periods of non-operation of fishwheels due to high water.

Table B-10. Catches of non-salmonids in the Nass River fishwheels, 2001.

	Pacific lamprey							Long nose sucker							Northern pike minnow							Prickley sculpin						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
07-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jun	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Jun	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-Jun	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Jun	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-Jun	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02-Jul	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03-Jul	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
07-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0
12-Jul	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
13-Jul	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-Jul	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
15-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Jul	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
19-Jul	0	2	0	1	0	1	4	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
20-Jul	0	4	0	1	0	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Jul	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-10. Catches of non-salmonids in the Nass River fishwheels, 2001.

	Pacific lamprey							Long nose sucker							Northern pike minnow							Prickley sculpin						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jul	0	1	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jul	0	3	0	2	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Jul	1	1	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-Jul	1	0	0	4	1	5	11	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
28-Jul	0	1	2	5	0	6	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jul	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
30-Jul	0	0	0	5	0	2	7	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	1
31-Jul	0	0	1	2	0	1	4	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0
01-Aug	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
02-Aug	0	0	0	2	0	4	6	0	0	0	0	0	0	0	0	0	0	1	0	3	4	0	0	0	0	0	0	0
03-Aug	0	1	1	1	0	6	9	0	0	0	0	0	0	0	0	0	1	0	5	3	9	0	0	0	0	0	0	0
04-Aug	0	1	2	19	0	11	33	0	0	1	0	0	1	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0
05-Aug	0	0	3	7	1	9	20	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Aug	0	0	3	3	1	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-Aug	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Aug	0	0	0	3	1	1	5	0	0	1	0	2	0	3	0	1	0	0	1	0	2	0	0	0	0	0	0	0
10-Aug	0	0	1	7	0	7	15	0	0	0	1	4	0	5	0	0	2	0	2	3	7	0	0	0	0	0	0	0
11-Aug	0	1	6	9	0	6	22	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
12-Aug	0	1	0	3	0	4	8	0	0	0	0	2	0	2	0	1	1	0	2	1	5	0	0	0	0	0	0	0
13-Aug	0	0	1	5	0	1	7	0	0	0	0	1	1	2	0	0	0	0	1	2	3	0	0	0	0	0	0	0
14-Aug	0	0	1	1	0	7	9	0	0	0	0	2	0	2	0	0	0	0	1	1	2	0	0	0	0	0	0	0
15-Aug	0	2	1	4	0	2	9	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0
16-Aug	0	0	2	5	0	4	11	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Aug	0	0	2	2	0	3	7	0	1	0	0	1	1	3	0	0	1	0	0	0	1	0	0	0	0	0	0	0
18-Aug	0	0	0	0	0	2	2	0	0	0	0	2	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
19-Aug	0	0	0	1	0	0	1	0	0	0	0	1	1	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	4	0	1	0	0	0	0	1
21-Aug	1	0	0	0	0	0	1	0	0	1	0	1	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0
22-Aug	0	0	2	1	0	0	3	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0
23-Aug	0	2	0	0	0	1	3	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Aug	0	0	0	1	0	1	2	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Aug	0	2	0	0	0	1	3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Aug	0	2	0	1	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Aug	1	4	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-Aug	0	3	0	0	0	2	5	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
01-Sep	0	3	0	1	0	4	8	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2
02-Sep	0	1	0	2	0	1	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
03-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-10. Catches of non-salmonids in the Nass River fishwheels, 2001.

	Pacific lamprey							Long nose sucker							Northern pike minnow							Prickley sculpin						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
07-Sep	0	0	0		0	0	0	0	0	0		0	1	1	0	4	1		0	0	5	0	0	0		0	0	0
08-Sep	0	0	0		0	0	0	0	0	0		1	0	1	1	3	0		0	1	5	0	0	0		0	0	0
09-Sep	0	0	0		0	0	0	0	1	0		0	0	1	0	1	1		0	1	3	0	0	0		0	0	0
10-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	1	0		0	0	1	0	0	0		0	0	0
11-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	1	0		0	0	1
12-Sep	0	0	0			1	1	0	0	1			0	1	0	0	0			0	0	0	2	0			0	2
13-Sep	0	0	0			0	0	0	0	0			0	0	0	1	0			0	1	0	0	0			0	0
14-Sep	0	0	0			0	0	2	0	0			0	2	0	0	0			0	0	0	0	0			0	0
Totals	4	41	30	100	4	129	308	2	3	4	3	22	8	42	2	16	9	4	23	21	75	2	9	0	0	1	1	13

Note 1: Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively.

Note 2: Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively.

Note 3: Shaded regions indicate periods of non-operation of fishwheels due to high water.

Table B-11. Daily catches of Pacific salmon smolts captured in the Nass River fishwheels, 2001

	Chinook							Sockeye							Coho							Steelhead						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
07-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
10-Jun	0	2	0	0	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Jun	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	1	0	0	0	0	3
13-Jun	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	5	6	0	1	0	0	0	2	3
14-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
17-Jun	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	3	5	0	1	0	0	0	1	2
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	9	10	0	0	0	0	0	0	0
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
26-Jun	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0
27-Jun	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
02-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	1	7	0	0	0	0	0	0	0
03-Jul	0	0	0	0	0	0	0	0	8	0	0	0	0	8	1	0	0	1	0	1	3	0	0	0	0	0	0	0
04-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
05-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0
06-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
08-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
12-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-11. Daily catches of Pacific salmon smolts captured in the Nass River fishwheels, 2001

	Chinook							Sockeye							Coho							Steelhead						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3	0	0	0	0	1	0	1
27-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
01-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
02-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
05-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
07-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	1
08-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
09-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	0	0
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0
11-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
14-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
15-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1
16-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
17-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	1	0	1
18-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3
19-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2
20-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
21-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
22-Aug	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2	4	0	0	0	0	1	1	2
23-Aug	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	7	0	0	0	1	0	0	1
25-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
26-Aug	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	1	0	0	0	0	1
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	5	0	1	0	0	1	0	2
30-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	1	0	1

Table B-11. Daily catches of Pacific salmon smolts captured in the Nass River fishwheels, 2001

	Chinook							Sockeye							Coho							Steelhead						
Date	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total	FW1	FW2	FW3	FW4	FW5	FW6	Total
01-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	4	0	0	0	0	0	1	1
02-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1
03-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	1	0	0	1
04-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
05-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
06-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
07-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	1		0	0	1
08-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	2	1		1	1	5
09-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	0	1		0	0	1	0	0	3		0	0	3
10-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
11-Sep	0	0	0		0	0	0	0	0	0		0	0	0	0	0	1		0	0	1	0	1	0		0	0	1
12-Sep	0	0	0			0	0	0	0	0			0	0	0	0	0			2	2	0	0	0			0	0
13-Sep	0	0	0			0	0	0	0	0			0	0	0	0	0			0	0	0	0	1			0	1
14-Sep	0	0	0			0	0	0	0	0			0	0	1	0	1			1	3	0	1	0			0	1
Totals	4	6	0	0	0	0	10	0	9	0	0	0	0	9	23	3	12	10	15	52	115	5	12	11	4	12	10	54

Note 1: Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively.

Note 2: Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively.

Note 3: Shaded regions indicate periods of non-operation of fishwheels due to high water.

APPENDIX C

Summaries of recovery data for fish tagged at the Nass River fishwheels, 2001

Table C-1. Summary statistics of travel time data for chinook, sockeye and coho salmon tagged at the Gitwinksihlkw fishwheels, 2001.

	Fish tagged at fishwheel 1									Fish tagged at fishwheel 2									Both fishwheels combined								
Recapture	Chinook			Sockeye			Coho			Chinook			Sockeye			Coho			Chinook			Sockeye			Coho		
Location	N	Mean	SD[a]	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Fishwheel 1	56	11.9	10.6	75	3.3	6.4	124	3.0	3.5	110	8.4	8.4	224	2.5	4.2	94	3.5	3.8	166	9.6	9.3	299	2.7	4.8	218	3.2	3.6
Fishwheel 2	26	8.9	6.4	64	3.2	3.6	52	3.8	5.9	43	13.4	10.5	111	4.2	5.3	38	4.5	4.0	69	11.7	9.4	175	3.8	4.8	90	4.1	5.1
Fishwheel 3	44	12.4	6.1	68	7.3	4.5	130	11.4	8.1	45	16.5	9.4	82	7.9	6.6	70	10.2	6.9	89	14.5	8.2	150	7.6	5.8	200	11.0	7.7
Fishwheel 4	52	13.2	7.3	71	7.8	4.6	74	6.6	4.4	70	19.2	9.3	76	7.8	5.0	31	7.3	4.7	122	16.6	9.0	147	7.8	4.8	105	6.8	4.5
Fishwheel 5	32	16.0	7.3	70	9.0	5.6	274	9.6	7.7	30	16.6	8.2	86	8.8	5.5	140	11.2	7.1	62	16.3	7.7	156	8.9	5.5	414	10.1	7.5
Fishwheel 6	75	13.6	6.5	85	8.2	5.2	282	8.6	6.6	70	16.8	8.0	113	7.4	4.6	137	9.9	6.6	145	15.1	7.4	198	7.7	4.9	419	9.0	6.6
Meziadin[b]	NR	NR	NR	1104	21.6	7.7	94	29.0	8.5	1	36		1313	22.4	7.8	59	31.1	9.6	1	36.0		2417	22.1	7.7	153	29.8	9.0
Totals	285			1537			1030			369			2005			569			654			3542			1599		

[a] Standard deviation

[b] NR=no recoveries

Table C-2. Summary statistics of travel time data for steelhead tagged at the Nass River fishwheels, 2001.

Recapture	Tagged at Gitwinksilkhw fishwheels									Tagged at Grease Harbour fishwheels															All fishwheels		
	Fishwheel 1			Fishwheel 2			Total			Fishwheel 3			Fishwheel 4			Fishwheel 5			Fishwheel 6			Total			Fishwheel 1-6		
Location	N	Mean	SD[a]	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Fishwheel 1	2	8	2.83	12	8.1	5.5	14	8.1	5.2																14	8.1	5.2
Fishwheel 2	8	7.6	5.4	16	4.3	3.2	24	5.4	4.3	1	28.0								2	16.0	5.7	3	20.0	8.0	27	7.0	6.5
Fishwheel 3	7	13.9	4.3	16	14.5	6.6	23	14.3	5.9	10	10.4	8.1	2	6.5	0.7	6	9.0	8.0	7	6.7	5.4	25	8.7	6.9	48	11.4	7.0
Fishwheel 4	1	16.0		3	11.0	1.0	4	12.3	2.6	4	9.0	7.2	3	3.3	4.9	1	6.0		9	6.0	8.0	17	6.2	7.0	21	7.4	6.7
Fishwheel 5	5	14.6	9.8	9	14.6	9.8	14	14.6	9.4	5	13.2	6.9	2	2.5	3.5	4	8.3	6.1	14	4.2	4.7	25	6.5	6.3	39	9.4	8.4
Fishwheel 6	13	11.5	6.3	24	11.8	7.2	37	11.6	6.8	18	6.6	5.9	8	6.9	1.5	16	8.1	8.3	17	5.4	6.4	59	6.7	6.4	96	8.6	6.9
Meziadin				1	31.0		1	31.0		3	29.7	17.9				2	14.5	2.1	3	23.7	16.8	8	23.6	14.6	9	24.4	13.8
Totals	36			81			117			41			15			29			52			137			254		

[a] Standard deviation

Table C-3. Travel time information for recoveries of tagged chinook salmon that were tagged at the Gitwinksihlkw fishwheels, 2001.

	Fish tagged at fishwheel 1							Fish tagged at fishwheel 2							
Travel	Location recovered														Grand
time (d)	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Total	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Total	Total
<1	3	3					6	11	6					17	23
1	5	1					6	19	1				1	21	27
2	4	1		2		1	8	10	1		1			12	20
3		1		1			2	7	1			1	1	10	12
4	3	1	2			3	9	3	1	2	1			7	16
5	2	3	3	4		2	14	4	3	1			1	9	23
6		2	2		1	2	7	4	1	2	1	1		9	16
7	2		3	2		4	11	2	1	4	2	2	2	13	24
8	4		2	4	3	5	18	4	3	2	2	1	2	14	32
9		3	4	2	4	7	20	3		1	2	1	9	16	36
10	3		3	5	1	2	14	1		3	3	4	2	13	27
11	8		5	3	2	7	25	3	4	1	6		5	19	44
12	1	2	2	3	2	3	13	6	1	2	2		1	12	25
13	4	3	2	2	1	3	15	4	1	1	2		7	15	30
14	3		2	3	3	5	16	6		1	3	2	4	16	32
15	2	2	3	5	1	10	23	4	1	3	5	3	2	18	41
16			2	8	1	2	13	4		2	4	2	1	13	26
17	1	2	2		2	5	12	1	2		4			7	19
18		1	1	1	2		5		2	1		2	1	6	11
19	1		1	2		1	5		2	5	1		3	11	16
20	2					2	4	4	1	2	1	1	6	15	19
21	1				2	1	4	1	2	2	2	2	3	12	16
22	1						1	1			1		3	5	6
23		1		1	1	2	5	1		1	3	2		7	12
24	1		2		1	2	6	3	1	1	2	2	4	13	19
25			2		1	2	5		2	1	4	1	1	9	14
26				1		1	2	1		1	1		1	4	6
27	1			1	1		3		1		2		2	5	8
28					1		1	2	1	1	3	2	3	12	13
29			1			1	2			1	2			3	5
30					1	1	2		1		2			3	5
31							0		1	1			1	3	3
32	2					1	3				1		1	2	5
33							0		1	2	2		1	6	6
34					1		1				2		1	3	4
35				1			1				1		1	2	3
36	1						1							0	1
39							0		1					1	1
40				1			1					1		1	2
42							0				1			1	1
43							0				1			1	1
45							0	1						1	1
49							0			1				1	1
59	1						1							0	1
Totals	56	26	44	52	32	75	285	110	43	45	70	30	70	368	653

Table C-4. Travel time information for recoveries of tagged chinook salmon that were tagged at the Grease Harbour fishwheels, 2001.

Travel	Fish tagged at fishwheel 3					Fish tagged at fishwheel 4						Fish tagged at fishwheel 5						Fish tagged at fishwheel 6						Grand
	Location recovered																							
time (d)	Fw3	Fw4	Fw5	Fw6	Total	Fw2	Fw3	Fw4	Fw5	Fw6	Total	Fw1	Fw3	Fw4	Fw5	Fw6	Total	Fw2	Fw3	Fw4	Fw5	Fw6	Total	Total
<1					0			13		4	17						0		1	2		3	6	23
1		2		1	3			5	1	9	15		1	1	1	6	9		1	14	8	2	25	52
2	1	7	6	1	15			2		2	4			1		1	2		1	4		1	6	27
3	2	2	1	4	9		3			4	7					1	1		1	3		1	5	22
4		2	1	1	4		1			1	2			1			1		1	2		1	4	11
5			2	3	5					2	2						0		1			2	3	10
6	2	2	2		6		2	1			3				1		1			2		2	4	14
7		5	2	2	9						0		1	1			2		1	1	2		4	15
8				1	1			2	1	1	4						0			1	1		2	7
9			1	1	2	1	1	1	1	3	7			2		1	3				1	1	2	14
10			1		1					1	1			1			1			2		2	4	7
11	1	2	1		4			1		1	2			1		1	2			2	2		4	12
12		1	1	2	4						0						0		1	1	3	4	9	13
13					0					1	1						0		1			1	2	3
14		2			2						0			1		2	3					1	1	6
15		1	1		2			1		1	2			1			1		1	4	1		6	11
16		1	2		3				1	2	3	1		1		1	3		1	1	1		3	12
17		1		1	2						0						0				1		1	3
18		1			1			1		2	3						0					1	1	5
19					0		1				1						0						0	1
20		1			1		1				1						0					1	1	3
21					0					2	2						0				1	1	2	4
22					0						0						0			1		1	2	2
23					0						0				1		1			1			1	2
24					0						0						0					1	1	1
25					0						0						0				1		1	1
26					0		1				1						0						0	1
27					0						0			1			1					1	1	2
28					0						0						0					1	1	1
29					0				1		1						0						0	1
30					0						0						0			2			2	2
31					0				1	1	2						0						0	2
32					0						0						0						0	0
33					0			1			1						0		1				1	2
34					0				1		1						0						0	1
35					0						0						0						0	0
36					0						0						0					1	1	1
39					0						0						0	1					1	1
Totals	6	30	21	17	74	1	10	28	7	37	83	1	2	12	3	13	31	1	12	43	22	29	107	295

Table C-5. Travel time information for recoveries of tagged sockeye salmon by location tagged and location recovered, 2001.

Travel	Fish tagged at fishwheel 1								Fish tagged at fishwheel 2								Grand
	Location recovered																
time (d)	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Mez	Total	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Mez	Total	Total
<1	14	11						25	29	15						44	69
1	28	22	2			2		54	106	29	2		1			138	192
2	13	7	7	5	2	4		38	23	17	9	3	3	6		61	99
3	3	4	9	8	10	7		41	13	8	12	11	7	15		66	107
4	2	2	4	10	6	11		35	17	6	8	13	7	18		69	104
5		2	7	3	2	7		21	11	5	8	6	11	15		56	77
6	2	4	4	1	3	5		19	8	7	2	2	3	7		29	48
7	3	2	4	5	2	3		19	4	7	5	3	8	9		36	55
8	2	4	4	12	8	9		39	3	2	9	6	10	5		35	74
9	1	2	5	7	3	7	1	26	4	4	1	9	8	8	1	35	61
10	1	2	8	1	11	8	15	46	1	2	4	1	4	6	9	27	73
11	1		2	9	7	5	16	40	1	1	5	8	1	2	20	38	78
12	2		4	2	6	7	26	47	1		4	5	2	5	37	54	101
13	1	1	2	2	2	2	64	74		1	3	2	6	4	46	62	136
14	1		3	3	2	1	75	85	1		3	1	4	4	79	92	177
15					2	2	79	83		2	1	2	4	4	80	93	176
16		1	1	1	1	1	81	86		1	1	1	1	1	73	78	164
17					1		54	55				1			80	81	136
18							49	49						1	63	64	113
19						1	54	55			1		2	1	60	64	119
20			1			1	48	50			1	1			66	68	118
21							48	48							69	69	117
22			1				53	54					2	1	59	62	116
23							45	45			1				65	66	111
24				1			51	52		1			1		52	54	106
25				1			38	39		3				1	45	49	88
26						1	34	35	1						33	34	69
27					1		29	30			1				46	47	77
28							38	38							35	35	73
29							26	26							47	47	73
30							29	29							45	45	74
31							32	32					1		44	45	77
32						1	25	26				1			28	29	55
33							20	20							29	29	49
34							19	19							21	21	40
35							10	10							14	14	24
36							8	8							13	13	21
37					1		5	6							3	3	9
38							4	4							7	7	11
39							4	4							9	9	13
40							3	3							3	3	6
41							3	3							2	2	5
42							2	2							4	4	6
43							4	4							5	5	9
44							2	2							5	5	7

Table C-5. Travel time information for recoveries of tagged sockeye salmon by location tagged and location recovered, 2001.

Travel time (d)	Fish tagged at fishwheel 1								Fish tagged at fishwheel 2								Grand Total
	Location recovered																
	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Mez	Total	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Mez	Total	
45								0			1					1	1
46								0							3	3	3
47							2	2	1						3	4	6
48							2	2							3	3	5
49	1						1	2							2	2	4
51								0							1	1	1
52							1	1								0	1
53							1	1							1	1	2
54							1	1								0	1
55								0							2	2	2
62							1	1								0	1
65								0							1	1	1
71							1	1								0	1
Totals	75	64	68	71	70	85	1104	1537	224	111	82	76	86	113	1313	2005	3542

Table C-6. Number of sockeye tagged at the Nass River fishwheels and recovered at the Meziadin fishway by release periods, 7 June to 7 July 2001.

	Weekly Release Periods																			
	7-9 June				10-16 June				17-23 June				24-30 June				1-7 July			
	Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered	
Date	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %
07-Jun		0																		
08-Jun	4	44																		
09-Jun	5	100																		
10-Jun					2	8														
11-Jun						8														
12-Jun					4	24														
13-Jun					8	56														
14-Jun					2	64														
15-Jun					2	72														
16-Jun					7	100														
17-Jun									10	27										
18-Jun									14	65										
19-Jun									8	86										
20-Jun									3	95										
21-Jun									2	100										
22-Jun																				
23-Jun																				
24-Jun													11	4						
25-Jun													53	21						
26-Jun													94	51						
27-Jun													45	65						
28-Jun													28	74						
29-Jun													25	82						
30-Jun													55	100						
01-Jul																	56	32		
02-Jul																	12	39		
03-Jul																	22	52		
04-Jul																	24	66		
05-Jul																	25	80		
06-Jul																	29	97		
07-Jul																	6	100		
08-Jul																				
09-Jul																				
10-Jul																				
11-Jul			1	11																
12-Jul				11																
13-Jul				11																
14-Jul			1	22			1	4												
15-Jul			1	33			1	8			1	3			1	0				
16-Jul			1	44			4	24			6	19			12	4				
17-Jul			1	56			3	36			6	35			18	10				
18-Jul				56			3	48			6	51			23	17				
19-Jul			1	67			2	56			5	65			27	26			2	1

Table C-6. Number of sockeye tagged at the Nass River fishwheels and recovered at the Meziadin fishway by release periods, 7 June to 7 July 2001.

	Weekly Release Periods																			
	7-9 June				10-16 June				17-23 June				24-30 June				1-7 July			
	Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered	
Date	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %
20-Jul			1	78			1	60			2	70			18	32			1	2
21-Jul				78			3	72				70			7	34			2	3
22-Jul				78				72				70			4	35			1	3
23-Jul				78				72				70			1	36				3
24-Jul				78				72				70			2	36				3
25-Jul				78				72				70			6	38				3
26-Jul				78			1	76			1	73			13	42			2	5
27-Jul				78				76			3	81			25	50			5	7
28-Jul				78				76			1	84			28	59			8	12
29-Jul				78			1	80				84			33	70			18	22
30-Jul				78			1	84			2	89			31	80			17	32
31-Jul				78			1	88			2	95			27	89			39	55
01-Aug			1	89				88			1	97			18	95			40	78
02-Aug				89			1	92				97			10	98			11	84
03-Aug			1	100			1	96				97			2	98			8	89
04-Aug								96				97			2	99			9	94
05-Aug								96			1	100				99			3	95
06-Aug							1	100							1	99			4	98
07-Aug																99			1	98
08-Aug																99				98
09-Aug																99			2	99
10-Aug																99				99
11-Aug																99				99
12-Aug															1	100			1	100
13-Aug																100				
14-Aug																100				
15-Aug																100				
16-Aug																100				
17-Aug																100				
18-Aug																100				
19-Aug																100				
20-Aug															1	100				
Total	9		9		25		25		37		37		311		311		174		174	

Table C-7. Number of sockeye tagged at the Nass River fishwheels and recovered at the Meziadin fishway by release periods, 8 July to 11 August 2001.

	Weekly Release Period																			
	8-14 July				15-21 July				22-28 July				29 July to 4 August				5-11 August			
	Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered	
Date	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %
08-Jul	44	17																		
09-Jul	37	31																		
10-Jul	44	47																		
11-Jul	16	53																		
12-Jul	43	70																		
13-Jul	39	84																		
14-Jul	41	100																		
15-Jul					35	9														
16-Jul					69	27														
17-Jul					42	38														
18-Jul					82	59														
19-Jul					44	71														
20-Jul					112	100														
21-Jul																				
22-Jul																				
23-Jul																				
24-Jul									57	13										
25-Jul									109	37										
26-Jul									88	57										
27-Jul									88	77										
28-Jul									101	100										
29-Jul			1	0									121	28						
30-Jul			10	4									59	42						
31-Jul			21	12									89	62						
01-Aug			36	26			4	1					73	79						
02-Aug			43	42			6	3					27	85						
03-Aug			32	54			52	16			4	1	28	92						
04-Aug			38	69			43	27			8	3	36	100						
05-Aug			19	76			34	36			20	7					44	20		
06-Aug			10	80			31	44			16	11					34	36		
07-Aug			6	82			35	53			21	16					35	52		
08-Aug			11	86			28	61			36	24			1	0	35	68		
09-Aug			13	91			53	74			62	38			1	0	23	78		
10-Aug			8	94			22	80			57	51			11	3	31	92		
11-Aug			6	96			25	87			57	63			19	7	17	100		
12-Aug			2	97			10	89			32	71			22	12				

Table C-7. Number of sockeye tagged at the Nass River fishwheels and recovered at the Meziadin fishway by release periods, 8 July to 11 August 2001.

	Weekly Release Period																			
	8-14 July				15-21 July				22-28 July				29 July to 4 August				5-11 August			
	Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered	
Date	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %
13-Aug			1	97			8	91			40	80			48	24				
14-Aug				97			8	93			24	85			54	36				
15-Aug			1	98			5	95			26	91			53	48			1	0
16-Aug			2	98			5	96			9	93			42	58			3	2
17-Aug				98			5	97			6	94			26	64			3	3
18-Aug				98			4	98			6	96			30	71			7	6
19-Aug				98			1	99			2	96			23	76			12	12
20-Aug			1	99				99			4	97			21	81			21	21
21-Aug				99				99			2	98			10	83			15	28
22-Aug				99			1	99				98			7	85			4	30
23-Aug				99				99				98			5	86			4	32
24-Aug			2	100				99				98			5	87			3	33
25-Aug				100				99			1	98			3	88			7	37
26-Aug				100				99				98			2	88			5	39
27-Aug				100				99			1	98			2	89			3	40
28-Aug				100				99				98				89			2	41
29-Aug				100			1	99				98				89			2	42
30-Aug				100				99				98			1	89			4	44
31-Aug			1	100				99			1	98			6	91			15	51
01-Sep								99			2	99			6	92			17	58
02-Sep							1	99				99			6	93			10	63
03-Sep								99				99				93			3	64
04-Sep								99				99			3	94				64
05-Sep							1	100				99			1	94			2	65
06-Sep								100				99			1	94			12	71
07-Sep							1	100			1	99			2	95			8	74
08-Sep											1	99			5	96			13	80
09-Sep												99			2	97			4	82
10-Sep												99			1	97			2	83
11-Sep												99			2	97			9	87
12-Sep											2	100			1	97			6	90
13-Sep											1	100			5	99			5	92
14-Sep												100			2	99			6	95
15-Sep											1	100			1	99			2	96
16-Sep															1	100			2	97
17-Sep																100			1	97

Table C-7. Number of sockeye tagged at the Nass River fishwheels and recovered at the Meziadin fishway by release periods, 8 July to 11 August 2001.

	Weekly Release Period																			
	8-14 July				15-21 July				22-28 July				29 July to 4 August				5-11 August			
	Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered	
Date	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %
18-Sep																100			3	99
19-Sep																100			1	99
20-Sep																100				99
21-Sep																100			1	100
22-Sep																100				100
23-Sep																100				100
24-Sep																100				100
25-Sep																100				100
26-Sep																100				100
27-Sep																100				100
28-Sep																100				100
29-Sep																100				100
30-Sep																100				100
01-Oct																100				100
02-Oct																100				100
03-Oct															1	100				100
04-Oct																100				100
05-Oct																100				100
06-Oct																100				100
07-Oct																100				100
08-Oct																100				100
09-Oct																100				100
10-Oct															1	100				100
11-Oct																			1	100
Total	264		264		384		384		443		443		433		433		219		219	

Table C-8. Number of sockeye tagged at the Nass River fishwheels and recovered at the Meziadin fishway by release period, 12 August to 8 September 2001.

	Weekly Release Period															
	12-18 August				19-25 August				26 August to 1 Sept.				2-8 September			
	Tagged		Recovered		Tagged		Recovered		Tagged		Recovered		Tagged		Recovered	
Date	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %	Daily	Cum. %
12-Aug	8	21														
13-Aug	7	39														
14-Aug	8	61														
15-Aug	10	87														
16-Aug	2	92														
17-Aug	1	95														
18-Aug	2	100														
19-Aug					1	3										
20-Aug					5	18										
21-Aug					6	35										
22-Aug					7	56										
23-Aug					4	68										
24-Aug					6	85										
25-Aug					5	100										
26-Aug									7	22						
27-Aug										22						
28-Aug									1	25						
29-Aug									5	41						
30-Aug									8	66						
31-Aug									6	84						
01-Sep			4	11					5	100						
02-Sep				11									6	43		
03-Sep				11									2	57		
04-Sep				11									1	64		
05-Sep				11									2	79		
06-Sep			2	16									2	93		
07-Sep			4	26										93		
08-Sep			2	32									1	100		
09-Sep				32												
10-Sep			3	39												
11-Sep			4	50												
12-Sep			3	58			3	9			1	3				
13-Sep			2	63			7	29			2	9				
14-Sep			5	76			7	50			10	41				
15-Sep			2	82			4	62			3	50			1	7
16-Sep			4	92			6	79			8	75			4	36
17-Sep			1	95			3	88			5	91			2	50
18-Sep			1	97			2	94			1	94			4	79
19-Sep			1	100			1	97			1	97				79
20-Sep								97				97			1	86
21-Sep								97				97				86
22-Sep							1	100			1	100			1	93
23-Sep																93
24-Sep																93
25-Sep																93
26-Sep																93
27-Sep																93
28-Sep																93
29-Sep																93
30-Sep																93
01-Oct																93
02-Oct																93
03-Oct																93
04-Oct															1	100
Total	38		38		34		34		32		32		14		14	

Table C-9. Travel time information for recoveries of tagged coho salmon by location tagged and location recovered, 2001.

	Fish tagged at fishwheel 1								Fish tagged at fishwheel 2								
Travel	Location recovered																Grand
time (d)	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Mez	Total	Fw1	Fw2	Fw3	Fw4	Fw5	Fw6	Mez	Total	Total
<1	19	13						32	11	4		1				16	48
1	33	12	2		1			48	26	7	1		1	1		36	84
2	21	6	7	6	31	15		86	17	4	4		4	7		36	122
3	13	4	9	10	29	37		102	8	3	5	5	9	8		38	140
4	10	5	11	8	17	34		85	4	2	8	5	8	8		35	120
5	9		11	12	26	32		90	8	5	1	5	12	9		40	130
6	6	6	7	11	35	32		97	2	5	5	1	12	12		37	134
7	5		7	7	18	24		61	8		7	3	7	20		45	106
8			10	3	10	15		38	3	2	4	1	7	6		23	61
9	2		5	5	4	11		27	2	2	7	2	10	13		36	63
10	1	1	4	4	8	6		24		2	2	1	5	7		17	41
11	1		4	2	13	11	1	32	1		1		7	7		16	48
12		1	3		8	4	1	17	1		6	2	14	6		29	46
13			6		9	6		21			1	1	5	2		9	30
14	1	1	6	1	4	6	1	20	1		2	1	5	2	3	14	34
15	2	1		1	4	2	2	12	1	1	2		3	3		10	22
16			5		7	8	2	22		1		1	1	2	1	6	28
17			4	1	5	7	6	23			3	1	3	6	1	14	37
18			2	1	5	5	2	15					2	3	3	8	23
19			3		10	2	1	16			3	1	3	2	1	10	26
20			2		2	2	2	8			1		1	2	1	5	13
21			4	1	1	4	2	12			1		2	2	2	7	19
22			2		2	4	3	11					2	1	2	5	16
23	1		2		3	1	3	10	1				6	1	1	9	19
24		1	3		7	1	3	15			1		1		1	3	18
25			2		1	2	4	9			2		3	1	2	8	17
26			1	1		4		6			1		3	2	1	7	13
27					3	3	2	8			1		1	1		3	11
28			1		2	1	10	14			1		2	1	1	5	19
29			1			1	3	5							2	2	7
30		1	3		2		2	8							4	4	12
31					1	1	2	4								0	4
32			3		2		5	10						1	5	6	16
33					2		9	11						1	3	4	15
34					2	1	2	5					1		3	4	9
35							3	3							2	2	5
36							4	4							6	6	10
37							3	3								0	3
38							4	4							1	1	5
39							4	4							3	3	7
40							1	1							2	2	3
41							4	4							3	3	7
42								0							1	1	1
43							1	1								0	1
45								0							1	1	1
46							1	1								0	1
48								0							1	1	1
50								0							1	1	1
52							1	1								0	1
60								0							1	1	1
Totals	124	52	130	74	274	282	94	1030	94	38	70	31	140	137	59	569	1599

APPENDIX D

Daily counts of salmon at the Meziadin fishway and in-season sockeye escapement estimates, 2001

Table D-1. Daily counts of sockeye salmon through the Meziadin fishway, 4 July to 15 October 2001.

Date	Adults		Jacks		All sockeye		No. of tags counted		Recovered	Portion	Portion of adults tagged	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Total	Cum.	tags	recovered	Daily	Cum.
04-Jul	0	-	0	-	0	-	0	-				
05-Jul	16	16	0	-	16	16	0	-			0.0%	
06-Jul	10	26	0	-	10	26	0	-			0.0%	0.0%
07-Jul	6	32	0	-	6	32	0	-			0.0%	0.0%
08-Jul	0	32	0	-	0	32	0	-			0.0%	0.0%
09-Jul	11	43	0	-	11	43	0	-			0.0%	0.0%
10-Jul	17	60	0	-	17	60	0	-			0.0%	0.0%
11-Jul	23	83	0	-	23	83	1	1	1	100.0%	4.3%	1.2%
12-Jul	44	127	0	-	44	127	0	1			0.0%	0.8%
13-Jul	16	143	0	-	16	143	0	1			0.0%	0.7%
14-Jul	117	260	0	-	117	260	2	3	2	100.0%	1.7%	1.2%
15-Jul	297	557	0	-	297	557	4	7	4	100.0%	1.3%	1.3%
16-Jul	758	1,315	0	-	758	1,315	24	31	23	95.8%	3.2%	2.4%
17-Jul	1,155	2,470	0	-	1155	2,470	40	71	28	70.0%	3.5%	2.9%
18-Jul	1,181	3,651	0	-	1181	3,651	51	122	32	62.7%	4.3%	3.3%
19-Jul	1,303	4,954	0	-	1303	4,954	52	174	37	71.2%	4.0%	3.5%
20-Jul	706	5,660	0	-	706	5,660	32	206	23	71.9%	4.5%	3.6%
21-Jul	202	5,862	0	-	202	5,862	15	221	12	80.0%	7.4%	3.8%
22-Jul	93	5,955	0	-	93	5,955	5	226	5	100.0%	5.4%	3.8%
23-Jul	98	6,053	1	1	99	6,054	1	227	1	100.0%	1.0%	3.8%
24-Jul	76	6,129	0	1	76	6,130	2	229	2	100.0%	2.6%	3.7%
25-Jul	203	6,332	1	2	204	6,334	6	235	6	100.0%	3.0%	3.7%
26-Jul	402	6,734	0	2	402	6,736	17	252	17	100.0%	4.2%	3.7%
27-Jul	1,131	7,865	6	8	1137	7,873	36	288	33	91.7%	3.2%	3.7%
28-Jul	1,704	9,569	4	12	1708	9,581	40	328	37	92.5%	2.3%	3.4%
29-Jul	2,087	11,656	16	28	2103	11,684	62	390	53	85.5%	3.0%	3.3%
30-Jul	2,665	14,321	44	72	2709	14,393	78	468	61	78.2%	2.9%	3.3%
31-Jul	4,382	18,703	204	276	4586	18,979	126	594	90	71.4%	2.9%	3.2%
01-Aug	3,861	22,564	404	680	4265	23,244	122	716	100	82.0%	3.2%	3.2%
02-Aug	3,529	26,093	491	1,171	4020	27,264	92	808	71	77.2%	2.6%	3.1%
03-Aug	4,751	30,844	676	1,847	5427	32,691	127	935	100	78.7%	2.7%	3.0%
04-Aug	4,833	35,677	1,278	3,125	6111	38,802	148	1,083	100	67.6%	3.1%	3.0%
05-Aug	3,276	38,953	748	3,873	4024	42,826	101	1,184	77	76.2%	3.1%	3.0%

Table D-1. Daily counts of sockeye salmon through the Meziadin fishway, 4 July to 15 October 2001.

Date	Adults		Jacks		All sockeye		No. of tags counted		Recovered	Portion	Portion of adults tagged	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Total	Cum.	tags	recovered	Daily	Cum.
06-Aug	1,783	40,736	437	4,310	2220	45,046	68	1,252	63	92.6%	3.8%	3.1%
07-Aug	1,921	42,657	447	4,757	2368	47,414	69	1,321	63	91.3%	3.6%	3.1%
08-Aug	4,128	46,785	1,089	5,846	5217	52,631	148	1,469	76	51.4%	3.6%	3.1%
09-Aug	4,902	51,687	1,136	6,982	6038	58,669	178	1,647	131	73.6%	3.6%	3.2%
10-Aug	5,298	56,985	921	7,903	6219	64,888	124	1,771	98	79.0%	2.3%	3.1%
11-Aug	5,566	62,551	838	8,741	6404	71,292	139	1,910	107	77.0%	2.5%	3.1%
12-Aug	4,115	66,666	516	9,257	4631	75,923	77	1,987	68	88.3%	1.9%	3.0%
13-Aug	6,177	72,843	735	9,992	6912	82,835	113	2,100	97	85.8%	1.8%	2.9%
14-Aug	5,873	78,716	963	10,955	6836	89,671	94	2,194	86	91.5%	1.6%	2.8%
15-Aug	4,627	83,343	734	11,689	5361	95,032	97	2,291	86	88.7%	2.1%	2.7%
16-Aug	3,456	86,799	562	12,251	4018	99,050	69	2,360	61	88.4%	2.0%	2.7%
17-Aug	2,490	89,289	389	12,640	2879	101,929	42	2,402	40	95.2%	1.7%	2.7%
18-Aug	2,378	91,667	229	12,869	2607	104,536	49	2,451	47	95.9%	2.1%	2.7%
19-Aug	2,677	94,344	378	13,247	3055	107,591	45	2,496	38	84.4%	1.7%	2.6%
20-Aug	2,064	96,408	280	13,527	2344	109,935	57	2,553	48	84.2%	2.8%	2.6%
21-Aug	1,812	98,220	191	13,718	2003	111,938	31	2,584	27	87.1%	1.7%	2.6%
22-Aug	900	99,120	86	13,804	986	112,924	18	2,602	12	66.7%	2.0%	2.6%
23-Aug	455	99,575	50	13,854	505	113,429	9	2,611	9	100.0%	2.0%	2.6%
24-Aug	384	99,959	50	13,904	434	113,863	12	2,623	10	83.3%	3.1%	2.6%
25-Aug	752	100,711	112	14,016	864	114,727	12	2,635	11	91.7%	1.6%	2.6%
26-Aug	780	101,491	154	14,170	934	115,661	10	2,645	7	70.0%	1.3%	2.6%
27-Aug	254	101,745	48	14,218	302	115,963	6	2,651	6	100.0%	2.4%	2.6%
28-Aug	71	101,816	9	14,227	80	116,043	2	2,653	2	100.0%	2.8%	2.6%
29-Aug	182	101,998	71	14,298	253	116,296	3	2,656	3	100.0%	1.6%	2.6%
30-Aug	351	102,349	109	14,407	460	116,756	5	2,661	5	100.0%	1.4%	2.6%
31-Aug	1,344	103,693	174	14,581	1518	118,274	24	2,685	23	95.8%	1.8%	2.6%
01-Sep	1,058	104,751	315	14,896	1373	119,647	31	2,716	29	93.5%	2.9%	2.6%
02-Sep	762	105,513	203	15,099	965	120,612	18	2,734	17	94.4%	2.4%	2.6%
03-Sep	302	105,815	78	15,177	380	120,992	4	2,738	3	75.0%	1.3%	2.6%
04-Sep	204	106,019	45	15,222	249	121,241	3	2,741	3	100.0%	1.5%	2.6%
05-Sep	279	106,298	61	15,283	340	121,581	5	2,746	4	80.0%	1.8%	2.6%
06-Sep	906	107,204	162	15,445	1068	122,649	15	2,761	15	100.0%	1.7%	2.6%
07-Sep	679	107,883	216	15,661	895	123,544	17	2,778	16	94.1%	2.5%	2.6%

Table D-1. Daily counts of sockeye salmon through the Meziadin fishway, 4 July to 15 October 2001.

	Adults		Jacks		All sockeye		No. of tags counted		Recovered	Portion	Portion of adults tagged	
Date	Daily	Cum.	Daily	Cum.	Daily	Cum.	Total	Cum.	tags	recovered	Daily	Cum.
08-Sep	876	108,759	277	15,938	1153	124,697	22	2,800	21	95.5%	2.5%	2.6%
09-Sep	605	109,364	125	16,063	730	125,427	8	2,808	6	75.0%	1.3%	2.6%
10-Sep	789	110,153	202	16,265	991	126,418	6	2,814	6	100.0%	0.8%	2.6%
11-Sep	803	110,956	125	16,390	928	127,346	15	2,829	15	100.0%	1.9%	2.5%
12-Sep	835	111,791	180	16,570	1015	128,361	18	2,847	16	88.9%	2.2%	2.5%
13-Sep	750	112,541	225	16,795	975	129,336	23	2,870	22	95.7%	3.1%	2.6%
14-Sep	795	113,336	244	17,039	1039	130,375	31	2,901	30	96.8%	3.9%	2.6%
15-Sep	582	113,918	139	17,178	721	131,096	16	2,917	14	87.5%	2.7%	2.6%
16-Sep	383	114,301	76	17,254	459	131,555	26	2,943	25	96.2%	6.8%	2.6%
17-Sep	380	114,681	77	17,331	457	132,012	13	2,956	12	92.3%	3.4%	2.6%
18-Sep	288	114,969	94	17,425	382	132,394	11	2,967	11	100.0%	3.8%	2.6%
19-Sep	212	115,181	64	17,489	276	132,670	4	2,971	4	100.0%	1.9%	2.6%
20-Sep	215	115,396	61	17,550	276	132,946	3	2,974	1	33.3%	1.4%	2.6%
21-Sep	144	115,540	52	17,602	196	133,142	1	2,975	1	100.0%	0.7%	2.6%
22-Sep	162	115,702	19	17,621	181	133,323	3	2,978	3	100.0%	1.9%	2.6%
23-Sep	70	115,772	11	17,632	81	133,404	0	2,978			0.0%	2.6%
24-Sep	11	115,783	3	17,635	14	133,418	0	2,978			0.0%	2.6%
25-Sep	4	115,787	2	17,637	6	133,424	0	2,978			0.0%	2.6%
26-Sep	4	115,791	1	17,638	5	133,429	0	2,978			0.0%	2.6%
27-Sep	16	115,807	3	17,641	19	133,448	0	2,978			0.0%	2.6%
28-Sep	11	115,818	2	17,643	13	133,461	0	2,978			0.0%	2.6%
29-Sep	40	115,858	8	17,651	48	133,509	0	2,978			0.0%	2.6%
30-Sep	36	115,894	3	17,654	39	133,548	0	2,978			0.0%	2.6%
01-Oct	31	115,925	3	17,657	34	133,582	0	2,978			0.0%	2.6%
02-Oct	33	115,958	4	17,661	37	133,619	0	2,978			0.0%	2.6%
03-Oct	53	116,011	3	17,664	56	133,675	1	2,979	1	100.0%	1.9%	2.6%
04-Oct	42	116,053	1	17,665	43	133,718	1	2,980	1	100.0%	2.4%	2.6%
05-Oct	26	116,079	2	17,667	28	133,746	0	2,980			0.0%	2.6%
06-Oct	21	116,100	1	17,668	22	133,768	0	2,980			0.0%	2.6%
07-Oct	5	116,105	0	17,668	5	133,773	0	2,980			0.0%	2.6%
08-Oct	18	116,123	1	17,669	19	133,792	0	2,980			0.0%	2.6%
09-Oct	11	116,134	2	17,671	13	133,805	0	2,980			0.0%	2.6%
10-Oct	18	116,152	1	17,672	19	133,824	1	2,981	1	100.0%	5.6%	2.6%

Table D-1. Daily counts of sockeye salmon through the Meziadin fishway, 4 July to 15 October 2001.

Date	Adults		Jacks		All sockeye		No. of tags counted		Recovered tags	Portion recovered	Portion of adults tagged	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Total	Cum.			Daily	Cum.
11-Oct	17	116,169	0	17,672	17	133,841	1	2,982	1	100.0%	5.9%	2.6%
12-Oct	12	116,181	1	17,673	13	133,854	0	2,982			0.0%	2.6%
13-Oct	6	116,187	0	17,673	6	133,860	0	2,982			0.0%	2.6%
14-Oct	5	116,192	0	17,673		133,860	0	2,982			0.0%	2.6%
15-Oct	0	116,192	0	17,673		133,860	0	2,982			0.0%	2.6%
Total	116,192		17,673		133,860		2,982		2,417	81.1%	2.6%	

Table D-2. Daily counts of chinook, coho, steelhead and pink salmon through the Meziadin fishway, 4 July to 15 October 2001.

	Chinook							Coho								Steelhead					Pink
	Adults		Tags		%	Jacks		Adults		Tags		% tags		Jacks		Adults		Tags		%	
Date	Daily	Cum.	Daily	Cum.	tags	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	tags	Daily
04-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
05-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
06-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
07-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
08-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
09-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
10-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
11-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
12-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
13-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
14-Jul	0	-	0	-		0	-	0	-	0	-			0	-	0	-	0	-		0
15-Jul	2	2	0	-	0.0%	0	-	0	-	0	-			0	-	0	-	0	-		0
16-Jul	3	5	0	-	0.0%	0	-	0	-	0	-			0	-	0	-	0	-		0
17-Jul	4	9	0	-	0.0%	0	-	0	-	0	-			0	-	0	-	0	-		0
18-Jul	3	12	0	-	0.0%	0	-	0	-	0	-			0	-	0	-	0	-		0
19-Jul	1	13	1	1	7.7%	0	-	0	-	0	-			0	-	0	-	0	-		0
20-Jul	1	14	0	1	7.1%	0	-	0	-	0	-			0	-	0	-	0	-		0
21-Jul	1	15	0	1	6.7%	0	-	0	-	0	-			0	-	0	-	0	-		0
22-Jul	1	16	0	1	6.3%	0	-	0	-	0	-			0	-	0	-	0	-		0
23-Jul	0	16	0	1	6.3%	1	1	0	-	0	-			0	-	0	-	0	-		0
24-Jul	1	17	0	1	5.9%	0	1	0	-	0	-			0	-	0	-	0	-		0
25-Jul	2	19	0	1	5.3%	0	1	0	-	0	-			0	-	0	-	0	-		0
26-Jul	2	21	0	1	4.8%	0	1	0	-	0	-			0	-	0	-	0	-		0
27-Jul	1	22	0	1	4.5%	0	1	0	-	0	-			0	-	0	-	0	-		0
28-Jul	7	29	0	1	3.4%	0	1	0	-	0	-			0	-	0	-	0	-		0
29-Jul	4	33	0	1	3.0%	0	1	0	-	0	-			0	-	0	-	0	-		0
30-Jul	5	38	0	1	2.6%	0	1	0	-	0	-			0	-	0	-	0	-		0
31-Jul	15	53	0	1	1.9%	0	1	0	-	0	-			0	-	0	-	0	-		0
01-Aug	14	67	0	1	1.5%	0	1	0	-	0	-			0	-	0	-	0	-		0
02-Aug	37	104	9	10	9.6%	10	11	0	-	0	-			0	-	0	-	0	-		0
03-Aug	39	143	2	12	8.4%	12	23	0	-	0	-			0	-	0	-	0	-		0
04-Aug	33	176	2	14	8.0%	11	34	0	-	0	-			0	-	0	-	0	-		0

Table D-2. Daily counts of chinook, coho, steelhead and pink salmon through the Meziadin fishway, 4 July to 15 October 2001.

	Chinook							Coho								Steelhead					Pink
	Adults		Tags		%	Jacks		Adults		Tags		% tags		Jacks		Adults		Tags		%	
Date	Daily	Cum.	Daily	Cum.	tags	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	tags	Daily
05-Aug	64	240	3	17	7.1%	4	38	0	-	0	-			0	-	0	-	0	-		0
06-Aug	9	249	1	18	7.2%	0	38	0	-	0	-			0	-	0	-	0	-		0
07-Aug	15	264	1	19	7.2%	2	40	0	-	0	-			0	-	0	-	0	-		0
08-Aug	23	287	1	20	7.0%	3	43	0	-	0	-			0	-	0	-	0	-		0
09-Aug	10	297	0	20	6.7%	2	45	1	1	0	-	0.0%	0.0%	0	-	0	-	0	-		0
10-Aug	15	312	2	22	7.1%	9	54	1	2	0	-	0.0%	0.0%	0	-	0	-	0	-		0
11-Aug	22	334	2	24	7.2%	10	64	1	3	0	-	0.0%	0.0%	0	-	0	-	0	-		0
12-Aug	9	343	3	27	7.9%	1	65	2	5	0	-	0.0%	0.0%	0	-	0	-	0	-		0
13-Aug	11	354	2	29	8.2%	9	74	9	14	0	-	0.0%	0.0%	0	-	0	-	0	-		0
14-Aug	17	371	3	32	8.6%	1	75	8	22	0	-	0.0%	0.0%	0	-	0	-	0	-		0
15-Aug	15	386	3	35	9.1%	2	77	17	39	0	-	0.0%	0.0%	0	-	0	-	0	-		0
16-Aug	12	398	1	36	9.0%	1	78	25	64	0	-	0.0%	0.0%	0	-	0	-	0	-		1
17-Aug	3	401	1	37	9.2%	2	80	30	94	0	-	0.0%	0.0%	0	-	0	-	0	-		0
18-Aug	4	405	0	37	9.1%	1	81	33	127	0	-	0.0%	0.0%	0	-	0	-	0	-		0
19-Aug	3	408	1	38	9.3%	3	84	46	173	0	-	0.0%	0.0%	0	-	0	-	0	-		0
20-Aug	3	411	1	39	9.5%	4	88	46	219	0	-	0.0%	0.0%	3	3	0	-	0	-		0
21-Aug	6	417	3	42	10.1%	6	94	48	267	1	1	2.1%	0.4%	1	4	0	-	0	-		0
22-Aug	2	419	0	42	10.0%	2	96	14	281	0	1	0.0%	0.4%	0	4	0	-	0	-		0
23-Aug	8	427	2	44	10.3%	2	98	10	291	0	1	0.0%	0.3%	0	4	0	-	0	-		1
24-Aug	8	435	2	46	10.6%	2	100	16	307	0	1	0.0%	0.3%	1	5	0	-	0	-		0
25-Aug	11	446	2	48	10.8%	3	103	18	325	1	2	5.6%	0.6%	0	5	0	-	0	-		0
26-Aug	6	452	2	50	11.1%	1	104	28	353	0	2	0.0%	0.6%	1	6	0	-	0	-		0
27-Aug	4	456	0	50	11.0%	2	106	7	360	0	2	0.0%	0.6%	0	6	0	-	0	-		0
28-Aug	2	458	0	50	10.9%	0	106	3	363	0	2	0.0%	0.6%	0	6	0	-	0	-		0
29-Aug	3	461	0	50	10.8%	1	107	6	369	0	2	0.0%	0.5%	0	6	0	-	0	-		0
30-Aug	10	471	1	51	10.8%	2	109	15	384	0	2	0.0%	0.5%	0	6	0	-	0	-		0
31-Aug	29	500	2	53	10.6%	8	117	60	444	2	4	3.3%	0.9%	1	7	0	-	0	-		0
01-Sep	8	508	0	53	10.4%	2	119	65	509	1	5	1.5%	1.0%	1	8	1	1	0	-	0.0%	0
02-Sep	10	518	2	55	10.6%	2	121	36	545	2	7	5.6%	1.3%	0	8	0	1	0	-		0
03-Sep	9	527	1	56	10.6%	1	122	21	566	1	8	4.8%	1.4%	0	8	0	1	0	-		0
04-Sep	2	529	1	57	10.8%	0	122	6	572	0	8	0.0%	1.4%	0	8	0	1	0	-		0
05-Sep	5	534	1	58	10.9%	0	122	21	593	1	9	4.8%	1.5%	0	8	0	1	0	-		0

Table D-2. Daily counts of chinook, coho, steelhead and pink salmon through the Meziadin fishway, 4 July to 15 October 2001.

	Chinook							Coho								Steelhead					Pink
	Adults		Tags		%	Jacks		Adults		Tags		% tags		Jacks		Adults		Tags		%	
Date	Daily	Cum.	Daily	Cum.	tags	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	tags	Daily
06-Sep	13	547	1	59	10.8%	2	124	121	714	3	12	2.5%	1.7%	0	8	0	1	0	-		0
07-Sep	4	551	0	59	10.7%	0	124	85	799	1	13	1.2%	1.6%	0	8	0	1	0	-		0
08-Sep	12	563	4	63	11.2%	0	124	183	982	3	16	1.6%	1.6%	1	9	1	2	0	-	0.0%	0
09-Sep	9	572	0	63	11.0%	0	124	174	1,156	1	17	0.6%	1.5%	1	10	0	2	0	-		0
10-Sep	7	579	1	64	11.1%	0	124	293	1,449	6	23	2.0%	1.6%	3	13	0	2	0	-		0
11-Sep	14	593	1	65	11.0%	0	124	285	1,734	7	30	2.5%	1.7%	1	14	2	4	0	-	0.0%	0
12-Sep	3	596	0	65	10.9%	0	124	325	2,059	7	37	2.2%	1.8%	1	15	2	6	0	-	0.0%	0
13-Sep	0	596	0	65	10.9%	0	124	343	2,402	7	44	2.0%	1.8%	1	16	1	7	0	-	0.0%	0
14-Sep	4	600	0	65	10.8%	0	124	528	2,930	9	53	1.7%	1.8%	0	16	3	10	0	-	0.0%	0
15-Sep	2	602	0	65	10.8%	0	124	591	3,521	18	71	3.0%	2.0%	0	16	0	10	0	-		0
16-Sep	2	604	0	65	10.8%	1	125	476	3,997	10	81	2.1%	2.0%	1	17	6	16	0	-	0.0%	0
17-Sep	2	606	0	65	10.7%	0	125	454	4,451	13	94	2.9%	2.1%	1	18	4	20	0	-	0.0%	0
18-Sep	0	606	0	65	10.7%	0	125	334	4,785	10	104	3.0%	2.2%	4	22	6	26	1	1	16.7%	0
19-Sep	1	607	0	65	10.7%	0	125	203	4,988	17	121	8.4%	2.4%	1	23	4	30	0	1	0.0%	0
20-Sep	1	608	0	65	10.7%	0	125	177	5,165	14	135	7.9%	2.6%	3	26	10	40	1	2	10.0%	0
21-Sep	0	608	0	65	10.7%	0	125	110	5,275	8	143	7.3%	2.7%	3	29	1	41	1	3	100.0%	0
22-Sep	0	608	0	65	10.7%	0	125	131	5,406	10	153	7.6%	2.8%	3	32	8	49	1	4	12.5%	0
23-Sep	4	612	1	66	10.8%	0	125	95	5,501	6	159	6.3%	2.9%	0	32	4	53	2	6	50.0%	0
24-Sep	0	612	0	66	10.8%	0	125	14	5,515	1	160	7.1%	2.9%	0	32	0	53	0	6		0
25-Sep	0	612	0	66	10.8%	0	125	16	5,531	1	161	6.3%	2.9%	1	33	3	56	0	6	0.0%	0
26-Sep	0	612	0	66	10.8%	0	125	4	5,535	1	162	25.0%	2.9%	0	33	0	56	0	6		0
27-Sep	1	613	0	66	10.8%	0	125	23	5,558	0	162	0.0%	2.9%	0	33	0	56	0	6		0
28-Sep	0	613	0	66	10.8%	0	125	13	5,571	0	162	0.0%	2.9%	0	33	2	58	1	7	50.0%	0
29-Sep	0	613	0	66	10.8%	0	125	35	5,606	2	164	5.7%	2.9%	0	33	0	58	0	7		0
30-Sep	0	613	0	66	10.8%	0	125	33	5,639	0	164	0.0%	2.9%	0	33	0	58	0	7		0
01-Oct	0	613	0	66	10.8%	0	125	25	5,664	0	164	0.0%	2.9%	2	35	1	59	0	7	0.0%	0
02-Oct	0	613	0	66	10.8%	0	125	41	5,705	2	166	4.9%	2.9%	1	36	0	59	0	7		0
03-Oct	0	613	0	66	10.8%	0	125	31	5,736	0	166	0.0%	2.9%	1	37	0	59	0	7		0
04-Oct	0	613	0	66	10.8%	0	125	22	5,758	3	169	13.6%	2.9%	0	37	3	62	0	7	0.0%	0
05-Oct	0	613	0	66	10.8%	0	125	25	5,783	0	169	0.0%	2.9%	0	37	2	64	0	7	0.0%	0
06-Oct	0	613	0	66	10.8%	0	125	24	5,807	2	171	8.3%	2.9%	2	39	1	65	0	7	0.0%	0
07-Oct	0	613	0	66	10.8%	0	125	10	5,817	1	172	10.0%	3.0%	0	39	0	65	0	7		0

Table D-2. Daily counts of chinook, coho, steelhead and pink salmon through the Meziadin fishway, 4 July to 15 October 2001.

	Chinook							Coho								Steelhead					Pink
	Adults		Tags		%	Jacks		Adults		Tags		% tags		Jacks		Adults		Tags		%	
Date	Daily	Cum.	Daily	Cum.	tags	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	tags	Daily
08-Oct	0	613	0	66	10.8%	0	125	17	5,834	0	172	0.0%	2.9%	1	40	0	65	0	7		0
09-Oct	0	613	0	66	10.8%	0	125	20	5,854	1	173	5.0%	3.0%	1	41	1	66	1	8	100.0%	0
10-Oct	0	613	0	66	10.8%	0	125	25	5,879	0	173	0.0%	2.9%	0	41	2	68	0	8	0.0%	0
11-Oct	0	613	0	66	10.8%	0	125	17	5,896	0	173	0.0%	2.9%	0	41	1	69	0	8	0.0%	0
12-Oct	0	613	0	66	10.8%	0	125	19	5,915	0	173	0.0%	2.9%	0	41	0	69	0	8		0
13-Oct	0	613	0	66	10.8%	0	125	12	5,927	0	173	0.0%	2.9%	1	42	3	72	1	9	33.3%	0
14-Oct	0	613	0	66	10.8%	0	125	15	5,942	0	173	0.0%	2.9%	0	42	0	72	0	9		0
15-Oct	0	613	0	66	10.8%	0	125	0	5,942	0	173	0.0%	2.9%	0	42	0	72	0	9		0
Total	613		66		10.8%	125		5942		173		2.9%		42		72		9		12.5%	2

Table D-3. The data used to derive the in-season sockeye salmon escapment estimates for the Nass River, 2001. These are preliminary data as presented during the season; refer to Appendix B for complete catch and tag totals.

	Fishwheel Catch				Fishwheel Tags					Grease Harbour (FW3, 4, 5, 6, IS Fishery)							In-season esc. at GW		Post-season esc. at GW	
Date	Daily FW1	Daily FW2	Total	Cum. catch	Daily FW1	Daily FW2	Total	Cum. tagged	Prop. tagged	Catch ncl. reps)	Cum. catch	IS catch	Raw Recaps	Cum. recaps	Adj. Recaps	Exp. Factor	Mark-recap. (-20% tags)	Expansion factor (fw1&2; 94-97, 99-00)	Daily RunRec	RunRec Cum
07-Jun	0	0	0	0	0	0	0	0	0%					Pre-season	23.5	7-27 June		0	0	0
08-Jun	11	17	28	28	10	16	26	26	93%					expansion	17.8	28-30 Jun		658	864	864
09-Jun	3	12	15	43	3	11	14	40	93%	2	2			factors	12.1	1 July-14 July		1,011	463	1326
10-Jun	3	8	11	54	3	7	10	50	91%	0	2				13.8	15 July		1,269	179	1505
11-Jun	0	1	1	55	0	1	1	51	100%	0	2				15.5	16-31 July, 1-3 Aug		1,293	16	1521
12-Jun	6	12	18	73	6	9	15	66	83%	2	4				18.1	4-7 Aug		1,716	292	1814
13-Jun	20	27	47	120	8	18	26	92	55%	6	10		(1-day transition		20.6	8-14 Aug		2,820	764	2577
14-Jun		11	11	131	0	5	5	97	45%	0	10		interpolation		20.0	15 August		3,079	179	2756
15-Jun	0	17	17	148	0	8	8	105	47%	0	10		between periods)		19.4	16-31 Aug, Sep		3,478	276	3032
16-Jun	18	34	52	200	15	23	38	143	73%	9	19		0	0				4,700	845	3877
17-Jun	41	28	69	269	28	14	42	185	61%	19	38		0	0				6,322	955	4832
18-Jun	43	57	100	369	27	32	59	244	59%	18	56		0	0				8,672	1384	6216
19-Jun		34	34	403	0	25	25	269	74%	0	56		0	0				9,471	471	6687
20-Jun		25	25	428	0	25	25	294	100%	0	56		0	0				10,058	346	7033
21-Jun		3	3	431	0	3	3	297	100%	0	56		0	0				10,129	42	7075
22-Jun				431	0	0		297	0%	0	56		0	0				10,129	0	7075
23-Jun				431	0	0		297	0%	0	56		0	0				10,129	0	7075
24-Jun		44	44	475	0	36	36	333	82%	0	56		0	0				11,163	666	7741
25-Jun	80	131	211	686	72	118	190	523	90%	4	60		1	1				16,121	3193	10934
26-Jun	162	202	364	1050	127	151	278	801	76%	34	94		2	3				24,675	5509	16443
27-Jun	156	215	371	1421	64	102	166	967	45%	130	224		7	10			33,394	33,394	5615	22058
28-Jun	62	138	200	1621	39	79	118	1085	59%	121	345		9	19			34,988	36,954	3027	25084
29-Jun	55	57	112	1733	45	53	98	1183	88%	20	365		1	20	4		36,434	38,947	1695	26779
30-Jun	118	127	245	1978	105	113	218	1401	89%	12	377		0	20	0		39,602	43,308	3708	30487
01-Jul	176	266	442	2420	92	105	197	1598	45%	86	463		5	25	9		45,401	48,656	3401	33888
02-Jul	109	163	272	2692	13	69	82	1680	30%	164	627		9	34	15		48,625	51,948	2093	35981
03-Jul	62	96	158	2850	41	49	90	1770	57%	202	829		12	46	19	8.5	50,096	53,859	1216	37197
04-Jul	40	105	145	2995	25	58	83	1853	57%	104	933		8	54	12	8.3	51,135	55,614	1116	38313
05-Jul	51	105	156	3151	28	51	79	1932	51%	77	1010		1	55	2	8.9	52,267	57,501	1200	39513
06-Jul	55	127	182	3333	29	67	96	2028	53%	100	1110		10	65	18	8.0	53,664	59,704	1400	40914
07-Jul	67	95	162	3495	9	16	25	2053	15%	101	1211	3486	118	183	202	12.9	55,126	61,664	1247	42161
08-Jul	192	204	396	3891	86	75	161	2214	41%	161	1372		12	195	16	12.9	59,513	66,455	3050	45210
09-Jul	66	163	229	4120	44	80	124	2338	54%	121	1493		6	201	9	13.1	62,289	69,226	1764	46974
10-Jul	169	169	338	4458	84	99	183	2521	54%	238	1731		16	217	39	11.9	66,395	73,316	2603	49577
11-Jul	50	100	150	4608	17	26	43	2564	29%	465	2196	3547	143	360	431	9.3	68,099	75,131	1155	50732
12-Jul	224	227	451	5059	92	74	166	2730	37%	430	2626		20	380	59	7.2	73,118	80,588	3473	54206
13-Jul	122	150	272	5331	61	73	134	2864	49%	319	2945		10	390	26	7.3	76,086	83,879	2095	56301
14-Jul	176	225	401	5732	67	112	179	3043	45%	532	3477		8	398	21	7.7	80,388	88,732	3088	59389
15-Jul	47	125	172	5904	42	106	148	3191	86%	376	3853	3429	100	498	269	9.0	82,249	91,105	2245	61634
16-Jul	177	228	405	6309	104	115	219	3410	54%	371	4224		8	506	19	11.1	86,613	97,383	5286	66920
17-Jul	201	209	410	6719	104	81	185	3595	45%	424	4648		11	517	24	12.1	91,297	103,738	5351	72272
18-Jul	233	325	558	7277	199	70	269	3864	48%	480	5128		15	532	36	12.1	103,189	112,387	7283	79555
19-Jul	86	217	303	7580	12	140	152	4016	50%	379	5507	4205	134	666	332	11.4	108,252	117,083	3955	83510
20-Jul	91	208	299	7879	86	174	260	4276	87%	252	5759		12	678	28	11.1	111,678	121,718	3903	87412
21-Jul				7879	0	0		4276	0%	21	5780		1	679	2	10.9	111,678	121,718	0	87412
22-Jul				7879	0	0		4276	0%	0	5780		0	679	0	10.7	111,678	121,718	0	87412
23-Jul				7879	0	0		4276	0%	0	5780		0	679	0	10.8	111,678	121,718	0	87412
24-Jul	17	212	229	8108	15	187	202	4478	88%	8	5788		1	680	1	10.8	115,504	125,267	3228	90640
25-Jul	479	599	1078	9186	104	198	302	4780	28%	405	6193		9	689	6	11.4	126,230	141,976	15195	105836
26-Jul	287	416	703	9889	59	146	205	4985	29%	1107	7300		39	728	30	21.3	132,852	152,873	9909	115745
27-Jul	269	272	541	10430	141	39	180	5165	33%	1410	8710		72	800	103	16.7	137,702	161,258	7626	123371
28-Jul	253	198	451	10881	109	67	176	5341	39%	1070	9780		67	867	139	11.5	141,877	168,249	6357	129728
29-Jul	209	248	457	11338	113	116	229	5570	50%	1110	10890		46	913	132	10.0	147,204	175,332	10681	140409
30-Jul	137	187	324	11662	54	81	135	5705	42%	856	11746		24	937	68	9.4	152,791	180,354	7573	147982
31-Jul	208	140	348	12010	80	78	158	5863	45%	863	12609		13	950	32	9.0	160,612	185,748	8133	156115
01-Aug	133	104	237	12247	48	72	120	5983	51%	826	13435		16	966	37	9.3	166,588	189,422	5539	161655

Table D-3. The data used to derive the in-season sockeye salmon escapment estimates for the Nass River, 2001. These are preliminary data as presented during the season; refer to Appendix B for complete catch and tag totals.

	Fishwheel Catch				Fishwheel Tags						Grease Harbour (FW3, 4, 5, 6, IS Fishery)							In-season esc. at GW		Post-season esc. at GW	
Date	Daily FW1	Daily FW2	Total	Cum. catch	Daily FW1	Daily FW2	Total	Cum. tagged	Prop. tagged	Catch ncl. rcps)	Cum. catch	IS catch	Raw Recaps	Cum. recaps	Adj. Recaps	Exp. Factor	Mark-recap. (-20% tags)	Expansion factor (fw1&2; 94-97, 99-00)	Daily RunRec	RunRec Cum
02-Aug	80	100	180	12427	32	40	72	6055	40%	693	14128		15	981	29	11.7	172,496	192,212	4207	165862
03-Aug	97	105	202	12629	32	23	55	6110	27%	688	14816		8	989	16	17.2	181,428	195,343	4721	170583
04-Aug	55	76	131	12760	43	25	68	6178	52%	493	15309		7	996	12	22.5	185,696	197,707	3062	173645
05-Aug	70	63	133	12893	40	34	74	6252	56%	424	15733		3	999	5	25.2	189,206	200,108	4054	177699
06-Aug	50	77	127	13020	29	43	72	6324	57%	305	16038		1	1000	2	32.8	191,362	202,400	3871	181570
07-Aug	43	67	110	13130	30	37	67	6391	61%	348	16386		4	1004	7	44.2	192,893	204,386	3353	184923
08-Aug	47	48	95	13225	24	32	56	6447	59%	319	16705		13	1017	21	32.6	194,128	206,343	2896	187819
09-Aug	21	49	70	13295	16	27	43	6490	61%	324	17029		10	1027	18	26.4	195,060	207,785	2134	189952
10-Aug	32	40	72	13367	22	26	48	6538	67%	377	17406		18	1045	31	17.0	196,239	209,268	2195	192147
11-Aug	16	35	51	13418	14	25	39	6577	76%	199	17605		8	1053	13	13.9	197,300	210,318	1555	193702
12-Aug	11	21	32	13450	9	9	18	6595	56%	207	17812		3	1056	4	13.0	198,136	210,978	640	194341
13-Aug	18	25	43	13493	10	20	30	6625	70%	147	17959		7	1063	9	13.3	199,276	211,863	859	195201
14-Aug	11	29	40	13533	7	20	27	6652	68%	141	18100	608	22	1085	25	16.4	200,400	212,687	800	196000
15-Aug	11	47	58	13591	7	22	29	6681	50%	121	18221		4	1089	4	20.8	202,289	213,847	1159	197159
16-Aug	11	12	23	13614	3	5	8	6689	35%	100	18321	657	16	1105	19	26.1	203,080	214,294	460	197619
17-Aug	7	22	29	13643	4	2	6	6695	21%	97	18418		0	1105	0	26.5	203,989	214,856	580	198199
18-Aug	12	12	24	13667	4	1	5	6700	21%	72	18490		3	1108	4	28.1	204,526	215,322	480	198679
19-Aug	6	7	13	13680	1	1	2	6702	15%	88	18578		1	1109	1	32.6	204,836	215,574	299	198977
20-Aug	9	7	16	13696	7	6	13	6715	81%	70	18648		1	1110	2	34.4	205,213	215,884	368	199345
21-Aug	9	12	21	13717	4	8	12	6727	57%	44	18692		2	1112	3	31.3	205,455	216,292	483	199828
22-Aug	2	15	17	13734	2	13	15	6742	88%	30	18722		1	1113	1	22.4	205,639	216,622	391	200219
23-Aug	9	29	38	13772	5	6	11	6753	29%	46	18768		1	1114	2	23.9	206,023	217,359	874	201092
24-Aug	10	14	24	13796	5	8	13	6766	54%	44	18812		0	1114	0	23.5	206,274	217,824	552	201644
25-Aug	4	6	10	13806	3	5	8	6774	80%	48	18860		3	1117	8	11.5	206,377	218,018	230	201874
26-Aug	3	11	14	13820	3	6	9	6783	64%	24	18884		1	1118	2	10.8	206,608	218,290	309	202183
27-Aug				13820	0	0		6783	0%	0	18884		0	1118	0	10.1	206,608	218,290	0	202183
28-Aug		2	2	13822	0	1	1	6784	50%	1	18885		0	1118	0	10.5	206,669	218,329	44	202227
29-Aug	4	3	7	13829	4	3	7	6791	100%	31	18916		0	1118	0	10.3	206,866	218,465	155	202382
30-Aug	8	15	23	13852	3	9	12	6803	52%	155	19071		2	1120	2	16.5	207,388	218,911	508	202890
31-Aug	6	16	22	13874	3	7	10	6813	45%	115	19186		5	1125	4	18.1	207,791	219,338	486	203376
01-Sep	7	8	15	13889	3	2	5	6818	33%	88	19274		3	1128	4	30.4	207,950	219,629	331	203707
02-Sep	3	5	8	13897	3	4	7	6825	88%	47	19321		1	1129	2	28.1	208,025	219,784	144	203851
03-Sep	2	4	6	13903	1	2	3	6828	50%	15	19336		1	1130	2	22.7	208,077	219,900	108	203959
04-Sep	1	2	3	13906	1	0	1	6829	33%	33	19369		0	1130	0	18.3	208,106	219,958	54	204013
05-Sep	4	0	4	13910	3	0	3	6832	75%	48	19417		4	1134	8	10.6	208,141	220,036	72	204084
06-Sep	2	4	6	13916	2	3	5	6837	83%	26	19443		1	1135	1	9.4	208,196	220,152	108	204192
07-Sep	3	3	6	13922	0	0	0	6837	0%	30	19473		2	1137	2	8.6	208,250	220,269	108	204300
08-Sep	1	2	3	13925	1	0	1	6838	33%	19	19492		1	1138	1	9.8	208,277	220,327	54	204354
09-Sep	1	6	7	13932	0	1	1	6839	14%	15	19507		0	1138	0	8.7	208,340	220,463	126	204479
10-Sep	0	1	1	13933	0	0	0	6839	0%	9	19516		0	1138	0	9.2	208,349	220,482	18	204497
11-Sep	0	0	0	13933	0	0	0	6839	0%	10	19526		0	1138	0	8.9	208,349	220,482	0	204497
12-Sep	0	0	0	13933	0	0	0	6839	0%	12	19538		0	1138	0	9.1	208,349	220,482	0	204497
13-Sep	0	1	1	13934	0	1	1	6840	100%	5	19543		0	1138	0	9.0	208,349	220,502	18	204515
14-Sep	0	1	1	13935	0	1	1	6841	100%	8	19551		0	1138	0	9.0	208,349	220,521	18	204533
Total	5850	8085	13935		2890	3951	6841		49%	19551		15932	1138				208,349	220,521	204533	

Note 1 Fishwheel 1, 2, 3, 4, 5,and 6 were started on 7 June, 7 June, 9 June, 27 June, 27 June and 12 June, respectively.

Note 2 Fishwheel 1, 2, 3, 4, 5,and 6 were shutdown on 14 Sep, 14 Sep, 14 Sep, 6 Sep, 11 Sep and 14 Sep, respectively

Note 3 Shaded regions indicate periods of non-operation of fishwheels due to high water.

APPENDIX E

Age and length data from fish captured in the Nass River fishwheels, 2001

Table E-1. Numbers of fish by age and length for chinook salmon sampled at the Nass River fishwheels, 2001.

Nose-fork length (cm)	Numbers of fish by age class						Total aged	Fish sampled but not aged [a]					Total not aged	Percent not aged
	32	42	52	53	62	63		1M	2M	3M	4M	RG		
36	1	0	0	0	0	0	1	0	0	0	0	0	0	0
37	0	0	0	1	0	0	1	0	0	0	0	0	0	0
38	1	0	0	0	0	0	1	0	0	0	0	0	0	0
39	1	0	0	0	0	0	1	0	0	0	0	0	0	0
42	1	0	0	0	0	0	1	0	0	0	0	0	0	0
43	2	0	0	0	0	0	2	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	1	0	0	0	0	1	100
46	1	0	0	0	0	0	1	0	0	0	0	0	0	0
48	1	0	0	0	0	0	1	0	0	0	0	0	0	0
49	1	0	0	0	0	0	1	0	0	0	0	0	0	0
51	1	0	0	0	0	0	1	0	0	0	0	1	1	50
52	2	0	0	0	0	0	2	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	1	1	100
55	1	0	0	0	0	0	1	1	0	0	0	0	1	50
56	0	1	0	0	0	0	1	0	0	0	0	0	0	0
58	0	2	0	0	0	0	2	0	0	0	0	0	0	0
60	0	3	0	0	0	0	3	0	1	0	0	0	1	25
61	0	1	0	0	0	0	1	0	0	0	0	0	0	0
62	0	1	0	0	0	0	1	0	1	0	0	0	1	50
63	0	7	0	0	0	0	7	0	2	0	0	0	2	22
64	0	5	0	0	0	0	5	0	0	0	0	0	0	0
65	0	3	1	1	0	0	5	0	3	0	0	0	3	38
66	0	1	0	0	0	0	1	0	1	0	0	0	1	50
67	0	11	0	0	0	0	11	0	1	0	0	0	1	8
68	0	6	0	0	0	0	6	0	1	0	0	0	1	14
69	0	4	0	0	0	0	4	0	2	0	0	1	3	43
70	0	13	0	0	0	0	13	0	4	0	0	0	4	24
71	0	9	0	0	0	0	9	0	0	2	0	1	3	25
72	0	8	2	0	0	0	10	0	4	1	0	0	5	33
73	0	9	0	0	0	0	9	0	2	2	0	0	4	31
74	0	5	0	1	0	0	6	0	1	2	0	0	3	33
75	0	1	0	1	0	0	2	0	4	0	0	0	4	67
76	0	1	1	0	0	0	2	0	1	0	0	0	1	33
77	0	5	3	0	0	0	8	0	1	1	0	1	3	27
78	0	1	3	0	0	0	4	0	0	0	0	0	0	0
79	0	0	3	0	0	0	3	0	1	0	0	0	1	25
80	0	0	2	0	0	0	2	0	0	0	0	0	0	0
81	0	1	7	0	1	0	9	0	0	2	0	0	2	18
82	0	0	7	0	0	0	7	0	0	1	0	0	1	13
83	0	0	5	0	0	0	5	0	0	2	0	0	2	29
84	0	0	10	0	0	0	10	0	0	1	0	1	2	17
85	0	0	14	0	0	0	14	0	0	4	0	1	5	26
86	0	0	17	0	0	0	17	0	0	4	0	0	4	19
87	0	0	19	0	1	0	20	0	0	10	1	0	11	35
88	0	0	28	0	1	1	30	0	0	4	0	1	5	14

Table E-1. Numbers of fish by age and length for chinook salmon sampled at the Nass River fishwheels, 2001.

Nose-fork	Numbers of fish by age class						Total	Fish sampled but not aged [a]					Total	Percent
length (cm)	32	42	52	53	62	63	aged	1M	2M	3M	4M	RG	not aged	not aged
89	0	0	34	0	0	1	35	0	0	10	0	0	10	22
90	0	0	32	0	0	0	32	1	0	10	2	1	14	30
91	0	1	24	0	1	1	27	0	0	13	3	0	16	37
92	0	0	33	0	1	0	34	0	0	9	1	0	10	23
93	0	0	38	0	1	0	39	0	0	9	1	3	13	25
94	0	0	31	0	1	0	32	0	0	6	1	1	8	20
95	0	0	19	0	5	0	24	0	0	1	1	0	2	8
96	0	1	16	0	5	0	22	0	0	2	4	0	6	21
97	0	0	8	0	4	0	12	0	0	5	2	0	7	37
98	0	0	18	0	0	1	19	0	0	6	4	0	10	34
99	0	0	10	0	2	0	12	0	0	1	1	0	2	14
100	0	0	7	0	3	0	10	0	0	2	3	0	5	33
101	0	0	6	0	2	1	9	0	0	0	1	0	1	10
102	0	0	7	0	3	0	10	0	0	1	0	0	1	9
103	0	0	3	0	2	0	5	0	0	0	0	1	1	17
104	0	0	2	0	5	0	7	0	0	0	0	0	0	0
105	0	0	1	0	2	0	3	0	0	1	1	0	2	40
106	0	0	1	0	0	0	1	0	0	0	0	1	1	50
107	0	0	1	0	1	0	2	0	0	0	0	0	0	0
108	0	0	1	0	1	0	2	0	0	0	0	0	0	0
109	0	0	0	0	1	0	1	0	0	0	0	0	0	0
110	0	0	0	0	1	0	1	0	0	0	0	0	0	0
111	0	0	0	0	1	0	1	0	0	0	1	0	1	50
112	0	0	1	0	0	0	1	0	0	0	1	0	1	50
113	0	0	0	0	0	0	0	0	0	1	0	0	1	100
Totals	13	100	415	4	45	5	582	3	30	113	28	15	189	25
Percent	2.2	17.2	71.3	0.7	7.7	0.9	100.0							

[a] Age error codes: M refers to marine annuli, the numbers refer to the number of marine annuli and RG is regenerated scale.

Table E-2. Numbers of fish by age and length for sockeye salmon sampled at the Nass River fishwheels, 2001.

Nose-fork	Numbers of fish by age class									Number sampled but unageable[a]						Percent
length (cm)	31	32	41	42	43	52	53	63	Total	1M	2M	RG	S2	S3	Total	not aged
44	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
46	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
47	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
48	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
49	0	0	0	3	1	0	0	0	4	0	0	0	0	0	0	0
50	1	0	1	5	1	0	1	0	9	0	0	0	0	0	0	0
51	0	0	2	8	0	1	1	0	12	0	2	0	0	0	2	14
52	0	0	0	6	0	1	0	2	9	0	1	0	0	0	1	10
53	1	0	0	11	0	1	7	1	21	0	1	0	0	0	1	5
54	0	0	0	15	0	2	2	1	20	0	6	0	0	0	6	23
55	0	0	0	23	0	3	5	1	32	0	1	0	0	0	1	3
56	0	0	3	38	0	2	10	1	54	0	4	0	0	0	4	7
57	0	0	6	33	0	11	13	1	64	0	2	0	0	0	2	3
58	0	0	3	31	0	6	25	1	66	0	3	0	0	0	3	4
59	0	0	5	43	0	12	24	2	86	0	9	0	0	0	9	9
60	0	0	9	29	0	18	30	9	95	0	5	0	0	0	5	5
61	0	0	1	29	0	37	24	12	103	0	3	0	0	0	3	3
62	0	0	4	22	0	48	24	15	113	0	5	0	0	0	5	4
63	0	0	3	11	0	46	20	16	96	0	4	0	0	0	4	4
64	0	0	3	17	0	61	21	19	121	0	1	1	1	1	4	3
65	0	0	3	9	0	57	10	30	109	0	0	0	0	1	1	1
66	0	1	5	6	0	63	5	25	105	0	1	0	1	0	2	2
67	0	0	2	3	0	53	7	41	106	0	3	1	0	0	4	4
68	1	0	4	2	0	36	4	34	81	0	2	0	0	0	2	2
69	0	0	1	4	0	40	2	29	76	1	1	0	0	1	3	4
70	0	0	0	1	0	20	0	29	50	0	1	1	1	0	3	6
71	0	0	0	0	0	12	0	16	28	0	0	0	0	2	2	7
72	0	0	0	2	0	5	0	12	19	0	0	1	0	0	1	5
73	0	0	0	0	0	1	0	8	9	0	0	0	1	0	1	10
74	0	0	0	0	0	3	0	2	5	0	1	0	0	0	1	17
75	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	50
Totals	3	1	55	352	4	540	235	310	1500	1	56	4	4	6	71	5

[a] Age error codes: 1M, 2M, 3M, refers to 1, 2 or 3 marine annuli; RG, regenerated; S2, sub-two (1 fresh water annulus); S3, sub-three (2 fresh water annuli).

Table E-3. Summary of weekly age composition of sockeye salmon sampled at the Nass River fishwheels, 2001.

Week	Stat.	Weekly	Portion of	Numbers of fish by age class									Proportions by week							
ending	week	abundance	total run	31	32	41	42	43	52	53	63	Totals	31	32	41	42	43	52	53	63
09-Jun	24	1,326	0.0065	0	0	1	3	0	30	1	1	36	0.000	0.000	0.028	0.083	0.000	0.833	0.028	0.028
16-Jun	25	2,551	0.0125	0	0	2	2	0	60	1	3	68	0.000	0.000	0.029	0.029	0.000	0.882	0.015	0.044
23-Jun	26	3,198	0.0156	0	0	10	3	0	22	1	5	41	0.000	0.000	0.244	0.073	0.000	0.537	0.024	0.122
30-Jun	27	23,412	0.1145	1	0	17	14	0	35	5	12	84	0.012	0.000	0.202	0.167	0.000	0.417	0.060	0.143
07-Jul	28	11,673	0.0571	2	0	14	30	0	50	25	17	138	0.014	0.000	0.101	0.217	0.000	0.362	0.181	0.123
14-Jul	29	17,228	0.0842	0	0	7	71	0	36	37	32	183	0.000	0.000	0.038	0.388	0.000	0.197	0.202	0.175
21-Jul	30	28,024	0.1370	0	0	1	84	1	58	38	34	216	0.000	0.000	0.005	0.389	0.005	0.269	0.176	0.157
28-Jul	31	42,316	0.2069	0	1	1	85	1	71	31	52	242	0.000	0.004	0.004	0.351	0.004	0.293	0.128	0.215
04-Aug	32	43,916	0.2147	0	0	0	27	1	67	39	66	200	0.000	0.000	0.000	0.135	0.005	0.335	0.195	0.330
11-Aug	33	20,057	0.0981	0	0	2	19	0	44	35	43	143	0.000	0.000	0.014	0.133	0.000	0.308	0.245	0.301
18-Aug	34	4,977	0.0243	0	0	0	5	1	27	11	23	67	0.000	0.000	0.000	0.075	0.015	0.403	0.164	0.343
25-Aug	35	3,195	0.0156	0	0	0	6	0	23	7	12	48	0.000	0.000	0.000	0.125	0.000	0.479	0.146	0.250
01-Sep	36	1,834	0.0090	0	0	0	3	0	10	4	8	25	0.000	0.000	0.000	0.120	0.000	0.400	0.160	0.320
08-Sep	37	646	0.0032	0	0	0	1	0	6	0	3	10	0.000	0.000	0.000	0.100	0.000	0.600	0.000	0.300
15-Sep	38	179	0.0009	0	0	0	0	0	2	0	0	2	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
Totals		204,533	1.0000	3	1	55	353	4	541	235	311	1501	0.002	0.001	0.037	0.235	0.003	0.360	0.157	0.207
				Proportions weighted by portion of run:									0.002	0.001	0.039	0.239	0.003	0.333	0.159	0.223

Table E-4. Summary of the numbers and mean lengths (nose-fork, cm) of successfully aged sockeye salmon from the Nass River fishwheel catch, 2001.

	June			July			August			September			Total		
Age class	N	Mean	SD[a]	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
31	1	68.0		2	51.5	2.1							3	57.0	9.6
32				1	66.0								1	66.0	
41	30	61.3	4.9	23	60.9	4.1	2	60.0	2.8				55	61.1	4.5
42	22	59.8	5.0	288	58.7	4.0	41	57.4	4.3	1	63.0		352	58.6	4.1
43				2	47.5	2.1	2	47.0	4.2				4	47.3	2.8
52	147	64.3	3.1	249	64.6	3.4	135	65.3	4.5	9	63.4	7.0	540	64.7	3.7
53	8	62.8	2.7	149	60.4	3.5	78	60.6	3.4				235	60.6	3.5
63	21	64.5	4.0	175	65.8	3.9	110	68.0	3.4	4	70.0	3.6	310	66.5	3.9
Totals	229	63.5	3.9	889	62.0	4.8	368	64.1	5.4	14	65.3	6.5	1500	62.8	5.0

[a] Standard deviation

Table E-5. Numbers of fish by age and length for coho salmon sampled at the Nass River fishwheels, 2001.

Nose-fork length (cm)	Numbers of fish by age class			Total aged	Fish sampled but not aged [a]		Total not aged	Percent not aged
	32	43	54		1M	RG		
40	1	0	0	1	0	0	0	0
41	2	0	0	2	0	0	0	0
42	1	0	0	1	2	1	3	75
43	4	2	0	6	0	0	0	0
44	7	1	0	8	2	0	2	20
45	9	1	0	10	2	0	2	17
46	6	0	0	6	5	1	6	50
47	5	2	0	7	3	0	3	30
48	8	1	0	9	4	0	4	31
49	11	1	1	13	6	2	8	38
50	8	2	0	10	4	1	5	33
51	7	3	0	10	6	0	6	38
52	8	3	0	11	13	0	13	54
53	8	4	0	12	7	0	7	37
54	11	3	0	14	5	0	5	26
55	13	1	0	14	9	1	10	42
56	11	5	0	16	3	0	3	16
57	14	2	0	16	11	2	13	45
58	16	4	0	20	7	0	7	26
59	12	2	0	14	6	0	6	30
60	27	4	0	31	10	0	10	24
61	26	5	0	31	14	0	14	31
62	31	10	0	41	12	1	13	24
63	52	4	0	56	22	0	22	28
64	40	7	0	47	20	0	20	30
65	45	9	1	55	24	0	24	30
66	44	9	0	53	15	0	15	22
67	37	10	0	47	27	0	27	36
68	51	8	0	59	15	0	15	20
69	33	5	0	38	16	0	16	30
70	22	9	0	31	13	1	14	31
71	14	2	0	16	12	0	12	43
72	17	5	0	22	2	0	2	8
73	8	2	0	10	3	0	3	23
74	3	2	0	5	2	0	2	29
75	2	1	0	3	0	0	0	0
76	2	0	0	2	1	0	1	33
77	1	0	0	1	0	0	0	0
78	0	0	0	0	2	0	2	100
79	0	1	0	1	0	0	0	0
80	1	0	0	1	0	0	0	0
85	1	0	0	1	0	0	0	0
96	1	0	0	1	0	0	0	0
Total	620	130	2	752	305	10	315	30
Percent	82.4	17.3	0.3					

[a] Age error codes: M refers to marine annuli, the numbers refer to the number of marine annuli and RG is regenerated scale.